

**State of Connecticut
Connecticut Department of Public Health**

Asthma in Connecticut 2008

A Surveillance Report



Keeping Connecticut Healthy

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Commissioner J. Robert Galvin, MD, MPH, MBA

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Connecticut Department of Public Health

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EXECUTIVE SUMMARY

Asthma is a chronic disease of the respiratory system that is characterized by reversible obstruction of the airways and airway hyper-responsiveness to a variety of stimuli. Nationally, asthma is one of the most common chronic diseases and a leading cause of disability in children. Currently, 8.5% (19.2 million) of adults in the United States report that they have asthma (2006 BRFSS). Asthma affects people of all ages, races and genders; however, certain population subgroups are disproportionately affected.

Although asthma is a very serious disease, its symptoms can be managed and people with asthma can lead full, normal lives. Successful management of asthma involves controlling exposure to triggers, proper and consistent drug therapy, ongoing monitoring by a health care provider, and appropriate patient education.

The Connecticut Department of Public Health (CT DPH) Asthma Program conducts surveillance activities to identify at-risk populations and monitor trends in asthma rates across the state. This report presents data from seven sources:

- Behavioral Risk Factor Surveillance System (BRFSS) (2000-2006)
- Hospitalization data (1996-2005)
- Emergency department visit data (1996-2004)
- Mortality data (1996-2005)
- School-based asthma surveillance data (2004-2006)
- Medicaid managed care data (2005)
- Work-related asthma data (1992-2006)

KEY FINDINGS

Asthma Prevalence – Adults

- From 2000-2006, the prevalence of current asthma among adults was slightly higher in Connecticut than in the United States as a whole. During this time period, Connecticut's current asthma prevalence increased from 7.8% in 2000 to 9.3% in 2006, while the United States as a whole increased from 7.3% in 2000 to 8.5% in 2006.
- In 2006, 13.8% (372,000) of Connecticut adults reported ever having been diagnosed with asthma, and 9.3% (248,000) reported that they currently have asthma. The prevalence of current asthma among women (11.2%) was statistically significantly higher than the prevalence among men (7.1%).
- In 2006, the prevalence of current asthma was higher among non-Hispanic black (12.6%) and Hispanic (10.9%) adults than among non-Hispanic white (9.0%) and non-Hispanic other (7.4%) adults. However, there were no statistically significant differences in current asthma prevalence among adults by race/ethnicity.
- In 2006, the prevalence of current asthma among adults was highest among those aged 18-24 years and lowest among those aged 35-44 years. However, there were no statistically significant differences in current asthma prevalence among adults by age group. With the exception of adults aged 35-44 years, current asthma prevalence appeared to decrease as age increased.

- Statistically, adults with current asthma were significantly more likely to be overweight or obese, to report their general health status as fair or poor, to have health insurance, and to have received a flu shot in the last 12 months, when compared to adults without current asthma.

Asthma Management – Adults

- In 2005, over 60% of adults with current asthma reported experiencing some asthma symptoms in the past 30 days, and 47.7% experienced an asthma attack in the past 12 months.
- In 2005, 29.1% of adults with current asthma reported activity limitation in the past 12 months because of their asthma. Although this is down from 35% in 2003, it is still well above the target of 6% based on *Healthy People 2010* objective.
- In 2005, 21.7% of adults with current asthma reported difficulty sleeping due to asthma on at least one of the past 30 days.

Asthma Prevalence – Children

- In 2005, 14.9% (123,000) of Connecticut children reported ever having been diagnosed with asthma, and 10.5% (86,000) reported that they currently have asthma.
- In 2005, the prevalence of current asthma among boys (12.0%) was higher than among girls (8.9%), but the difference was not statistically significant.
- In 2005, the prevalence of current asthma among children was highest among Hispanics (17.4%), followed by non-Hispanic others (15.2%) and non-Hispanic blacks (11.2%), and was lowest among non-Hispanic whites (9.1%). However, the differences were not statistically significant.
- In 2005, the prevalence of current asthma among children was highest among those aged 5-12 years (11.6%), followed by those aged 13-17 years (9.1%) and aged 0-4 years (7.8%), but the differences were not statistically significant.
- In 2005, children whose parents had current asthma (26.6%) were about three times more likely to have current asthma when compared to children whose parents did not have current asthma (8.8%). The difference was statistically significant.

Asthma Hospitalizations – Adults

- The hospitalization rate among adults with a primary diagnosis of asthma remained relatively stable from 1996-2005, with an average of 10.8 hospitalizations per 10,000 adults. However, the hospitalization rate among adults with asthma as a secondary diagnosis showed a steady increase, from 34.6 per 10,000 in 1996 to 80.9 per 10,000 in 2005.

- Over the 5-year period between 2001-2005, there was an average of 2,900 hospitalizations (11.1 per 10,000) each year among adults with a primary diagnosis of asthma. The asthma hospitalization rate among women was 2.3 times higher than among men. The rate among adults aged 65 years and over was 3 times higher than among adults aged 18-24 years, and the rate decreased as age decreased. Asthma hospitalization rates among non-Hispanic black and Hispanic adults were over 3 times higher than among non-Hispanic white and non-Hispanic other adults.
- Between 2001-2005, the five largest cities accounted for 34.7% of all asthma hospitalizations among adults in Connecticut, with a combined rate of 22.7 per 10,000 adults, as compared to 9.1 per 10,000 for the rest of the state.
- Between 2003-2005, the mean charge per hospitalization for adults with a primary diagnosis of asthma was \$12,100, which translates into a total charge of **\$37,439,000 per year**.

Asthma Hospitalizations – Children

- The hospitalization rate among children with a primary diagnosis of asthma averaged 18.0 hospitalizations per 10,000 children from 1996-2005, and had been on a decreasing trend since 2003. However, the hospitalization rate among children with a secondary diagnosis of asthma showed a steady increase, from 12.1 per 10,000 in 1996 to 25.6 per 10,000 in 2005.
- Over the 5-year period between 2001-2005, there was an average of 1,500 hospitalizations (17.8 per 10,000) each year among children with a primary diagnosis of asthma. The asthma hospitalization rate among boys was 1.5 times higher than among girls. The rate among children aged 0-4 years was 5.3 times higher than among children aged 15-17 years, and the rate decreased as age increased. The asthma hospitalization rates among non-Hispanic black, Hispanic, and non-Hispanic other children were 3.9, 3.1, and 2.3 times higher, respectively, than among non-Hispanic white children.
- Between 2001-2005, the five largest cities accounted for 42.1% of all asthma hospitalizations among children in Connecticut, with a combined rate of 38.7 per 10,000 children, as compared to 12.7 per 10,000 for the rest of the state.
- Between 2003-2005, the mean charge per hospitalization for children with a primary diagnosis of asthma was \$6,678, which translates into a total charge of **\$9,877,000 per year**.

Asthma Emergency Department (ED) Visits – Adults

- The ED visit rate among adults with a primary diagnosis of asthma remained relatively stable from 1996-2004 with an average of 58.5 ED visits per 10,000 adults. However, the ED visit rate among adults with asthma as a secondary diagnosis showed a steady increase, from 19.4 per 10,000 in 1996 to 75.6 per 10,000 in 2004.

- Over the 5-year period between 2000-2004, there was an average of 14,800 ED visits (56.1 per 10,000) each year among adults with a primary diagnosis of asthma. The asthma ED visit rate among women was 1.7 times higher than among men. The rate among adults aged 18-34 years was 4.2 times higher than among adults aged 65 years and over, and the rate decreased as age increased. The asthma ED visit rates among Hispanic, non-Hispanic black, and non-Hispanic other adults were over 4.6, 3.7, and 2.3 times higher, respectively, than among non-Hispanic white adults.
- Between 2000-2004, the five largest cities accounted for 36.1% of all asthma ED visits among adults in Connecticut, with a combined rate of 119.5 per 10,000 adults, as compared to 44.6 per 10,000 for the rest of the state.
- Between 2000-2004, the mean charge per ED visit for adults with a primary diagnosis of asthma was \$652, which translates into a total charge of **\$9,633,000 per year**.

Asthma ED Visits – Children

- The ED visit rate among children with a primary diagnosis of asthma remained approximately the same from 1996-2004, averaging 85.9 visits per 10,000 children. However, the ED visit rate among children with a secondary diagnosis of asthma showed a steady increase, from 32.5 per 10,000 in 1996 to 91.1 per 10,000 in 2004.
- Over the 5-year period between 2000-2004, there was an average of 7,200 ED visits (85.6 per 10,000) each year among children with a primary diagnosis of asthma. The asthma ED visit rate among boys was 1.4 times higher than among girls. The rate among children aged 0-4 years was 2 times higher than among children aged 15-17 years, and the rate decreased as age increased. The asthma ED visit rates among Hispanic, non-Hispanic black, and non-Hispanic other children were 4.8, 4.2, and 3.0 times higher, respectively, than among non-Hispanic white children.
- Between 2000-2004, the five largest cities accounted for 42.2% of all asthma ED visits among children in Connecticut, with a combined rate of 187.3 per 10,000 children, as compared to 61.2 per 10,000 for the rest of the state.
- Between 2000-2004, the mean charge per ED visit for children with a primary diagnosis of asthma was \$527, which translates into a total charge of **\$3,789,000 per year**.

Asthma Mortality – Adults

- From 1996-2005 among adults 18 years of age and older, the average death rate was 18.5 per 1,000,000 and 34.5 per 1,000,000 with asthma as the underlying and contributing cause, respectively.
- Over the 5-year period between 2001-2005, there was an average of 43 deaths (16.2 per 1,000,000) among adults with asthma as the underlying cause each year. The asthma death rate among women was 2 times higher than among men. The rate among adults aged 65 years and over was 15.2 times higher than among adults aged 25-34 years, and the rate generally decreased as age decreased. The asthma death rates among non-Hispanic black and Hispanic adults were 2.3 and 1.5 times higher, respectively, than among non-Hispanic white adults.

Asthma Mortality – Children

- From 1996-2005 among children 0-17 years old, the average death rate was 2.3 per 1,000,000 and 0.8 per 1,000,000 with asthma as the underlying and contributing cause, respectively. (Note: rates might be unstable due to small number of deaths and thus should be interpreted with caution.)
- Over the 5-year period between 2001-2005, there was an average of 2 deaths (2.1 per 1,000,000) among children with asthma as the underlying cause each year. The asthma death rate among girls was 1.3 times higher than among boys. The rate among children aged 15-17 years was 1.6 times higher than among children aged 5-9 years, and the rate generally increased as age increased. The asthma death rates among non-Hispanic black and Hispanic children were 6.0 and 1.6 times higher, respectively, than among non-Hispanic white children.

Asthma Among School Children

- District Reference Groups (DRGs) is a classification system established by the State Department of Education (SDE) in which districts that have public school students with similar socioeconomic status (SES) and need are grouped together into nine DRGs. In general, asthma rates increased with decreasing SES. It should be noted that over one-third of public school students with asthma were living in the two DRGs with the lowest SES for the 2004-2005 and 2005-2006 school years.
- Among public school students during the 2004-2005 and 2005-2006 school years, Hispanics and non-Hispanic blacks had higher rates of asthma than non-Hispanic whites.
- Among public school students during the 2004-2005 and 2005-2006 school years, males had slightly higher rates of asthma than females.
- Asthma rates did not differ between PK/K and 6/7 grade public school students, and were slightly lower in 10/11 grade public school students when compared to their younger counterparts.

Asthma Among Children Enrolled in HUSKY A

- During calendar year 2005, there were 169,580 children under the age of 21 who were continuously enrolled in HUSKY Plan A. Of these, 33,217 (19.6% or roughly 1 in 5) received care for a primary diagnosis of asthma, or a prescription for asthma medication.
- Asthma prevalence was statistically significantly higher among males (21.5%) compared to females (17.7%) enrolled in HUSKY A in 2005.
- Asthma prevalence in 2005 was statistically significantly higher among Hispanic children (21.8%) compared to non-Hispanic black (18.7%) or non-Hispanic white (18.4%) children enrolled in HUSKY A. Non-Hispanic children of other races had the lowest asthma prevalence at 15.5%.

- The prevalence of asthma among children enrolled in HUSKY A tended to decrease as age increased, ranging in 2005 from 23.0% among those under 5 years of age to 12.7% among 19-20 year olds. Asthma prevalence was statistically significantly higher among children under 5 years of age compared to all older children in 2005.

Work-Related Asthma

- Each year in Connecticut, approximately 30 individuals are reported to the Occupational Injuries and Illnesses Surveillance System (OISS) with work-related asthma (WRA) or reactive airways dysfunction syndrome (RADS), with the vast majority of cases being classified as WRA. Between 1992 and 2006, a total of 448 individuals were reported to have WRA or RADS.
- Poor indoor air quality (IAQ) was the most commonly reported suspected cause of WRA and RADS.

CONCLUSION

The prevalence of asthma among adults is higher in Connecticut than in the United States as a whole. Asthma prevalence also appears to be on the rise in Connecticut, where the prevalence among adults increased to 9.3% in 2006 from 7.8% in 2000. Approximately 248,000 (9.3%) adults and 86,000 (10.5%) children in Connecticut reported that they currently have asthma.

On an annual basis, Connecticut spends a total of **\$47.3 million on hospitalization charges** and **\$13.4 million on ED visit charges** due to asthma as a primary diagnosis. While the rate of asthma hospitalization (primary diagnosis), ED visits (primary diagnosis), and mortality (underlying cause) has not increased during the most recent 5-year period, Connecticut still falls short of its target in reducing asthma burden based on the *Healthy People 2010* objectives. Hospitalization and ED visits with asthma as a secondary diagnosis have steadily increased during the past decade, and more research is needed to fully explore and understand these occurrences.

Although asthma affects people of all ages, races and genders, certain population subgroups are disproportionately affected. Based on asthma prevalence, hospitalization, ED visit, and mortality indicators, the following population subgroups have been identified as priority for asthma intervention in Connecticut: 1) children, 2) adult women, 3) elderly, 4) Hispanics, 5) non-Hispanic blacks, 6) residents of low socioeconomic status, and 7) residents of urban areas.

Over the next year, the CT DPH Asthma Program and the Connecticut Asthma Advisory Council (AAC) will develop a revised statewide asthma plan to address asthma in Connecticut. This plan will outline goals, objectives, and strategies to reduce the asthma burden among Connecticut residents. The plan will also present asthma interventions that will focus on reducing asthma burden among the population subgroups identified above. Furthermore, the CT DPH Asthma Program, AAC, and asthma partners throughout Connecticut will continue to expand current asthma interventions and assess progress towards reducing the burden of asthma among the priority populations.

INTRODUCTION

Asthma is a chronic disease of the respiratory system that is characterized by reversible obstruction of the airways and airway hyper-responsiveness to a variety of stimuli. Nationally, asthma is one of the most common chronic diseases and a leading cause of disability in children. Currently, 8.5% (19.2 million) of adults in the United States report that they have asthma (2006 BRFSS). Although asthma affects people of all ages, races and genders, certain population subgroups are disproportionately affected, including women, children, Hispanics, non-Hispanic blacks, those with lower household incomes, and residents of urban areas.

Although asthma is a very serious disease, its symptoms can be managed and people with asthma can lead full, normal lives. Successful management of asthma involves controlling exposure to triggers, proper and consistent drug therapy, ongoing monitoring by a health care provider, and appropriate patient education.

Recognizing the number of lives affected by asthma in the state, the Connecticut Department of Public Health (CT DPH) established a state Asthma Program in 2000, with the mission of reducing asthma-associated morbidity and mortality and improving the quality of life for people with asthma in Connecticut. One of the key functions of the Asthma Program is to conduct surveillance activities to identify at-risk populations and monitor trends in asthma rates across the state. This report is the fourth in a series summarizing the available asthma surveillance data for the state of Connecticut.

This report presents data from seven sources:

- Behavioral Risk Factor Surveillance System (BRFSS) (2000-2006) – CT DPH Health Information Systems and Reporting Section
- Hospitalization data (1996-2005) – CT Office of Health Care Access
- Emergency department visit data (1996-2004) – CHIME, Inc.
- Mortality data (1996-2005) – CT DPH Office of Vital Records
- School-based asthma surveillance data (2004-2006) – CT DPH Asthma Program
- Medicaid managed care data (2005) – Connecticut Voices for Children
- Work-related asthma data (1992-2006) – Occupational Injuries and Illnesses Surveillance System (OISS) – CT DPH Occupational Health Program

This surveillance report presents information on prevalence (BRFSS), morbidity (hospitalization and emergency department visit), and mortality separately for adults aged 18 years and over and children less than 18 years of age. In addition, a Connecticut demographic profile and sections describing the Healthy People 2010 asthma objectives are included in this report.

CONNECTICUT DEMOGRAPHIC PROFILE – Census 2000

	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	Number	Percent	Number	Percent	Number	Percent
Total	2,563,877	100.0%	841,688	100.0%	3,405,565	100.0%
Sex						
Male	1,218,230	47.5%	431,089	51.2%	1,649,319	48.4%
Female	1,345,647	52.5%	410,599	48.8%	1,756,246	51.6%
Race/Ethnicity						
White, non-Hispanic	2,053,286	80.1%	585,559	69.6%	2,638,845	77.5%
Black, non-Hispanic	202,510	7.9%	93,061	11.1%	295,571	8.7%
Hispanic	204,664	8.0%	115,659	13.7%	320,323	9.4%
Other, non-Hispanic	103,417	4.0%	47,409	5.6%	150,826	4.4%
Age Group						
0 – 4 years			223,344	26.5%	223,344	6.6%
5 – 9 years			244,144	29.0%	244,144	7.2%
10 – 14 years			241,587	28.7%	241,587	7.1%
15 – 17 years			132,613	15.8%	132,613	3.9%
18 – 24 years	271,585	10.6%			271,585	8.0%
25 – 34 years	451,640	17.6%			451,640	13.3%
35 – 44 years	581,049	22.7%			581,049	17.1%
45 – 54 years	480,807	18.8%			480,807	14.1%
55 – 64 years	308,613	12.0%			308,613	9.1%
65 + years	470,183	18.3%			470,183	13.8%

BEHAVIORAL RISK FACTOR SURVEILLANCE SYSTEM (BRFSS)

The Behavioral Risk Factor Surveillance System (BRFSS) is a state-based random digit dialed telephone survey of civilian, non-institutionalized adults aged 18 years and older. The survey, which is coordinated by the U.S. Centers for Disease Control and Prevention (CDC), is designed to monitor the prevalence of major behavioral risk factors associated with chronic disease, injuries, and preventable infectious diseases among adults. All 50 states, the District of Columbia, and three territories conduct the BRFSS annually.

The CDC defines a core set of questions, including two questions regarding asthma prevalence, which are asked by all states as part of the BRFSS. Individual states have the option of including additional questions on a variety of health topics. The optional adult asthma module, which was included on Connecticut's 2005 survey, gathers information about disease history, health care usage, and disease symptoms. The optional child asthma module, which was also included on Connecticut's 2005 survey, gathers information about child asthma prevalence. The specific asthma questions included on the 2005 Connecticut BRFSS can be found in Appendix 1.

The core asthma and optional child asthma module questions allow for the calculation of two types of prevalence estimates: lifetime asthma and current asthma. Lifetime asthma prevalence refers to the percentage of people who answered "yes" to the question: "Have you ever been told by a doctor, nurse, or other health professional that you had asthma?" Current asthma prevalence refers to the percentage of people who answered "yes" to two questions: "Have you ever been told by a doctor, nurse, or other health professional that you had asthma?" and "Do you still have asthma?" When calculating the percentages, people who answered "Don't Know/Not Sure" or "Refused" to answer were excluded from the analyses.

This section presents the most up-to-date data from the Connecticut BRFSS on adult and child lifetime and current asthma prevalence. It examines issues of asthma control and management among adults with current asthma. In addition, factors such as general health status, health insurance coverage, smoking status, weight, and flu vaccination status were compared among adults with and without current asthma. Data were analyzed by age, gender, race/ethnicity, household income, and education level to determine if asthma prevalence varied by demographic variables. Detailed tables of the results, including 95% confidence intervals, can be found in Appendix 2.

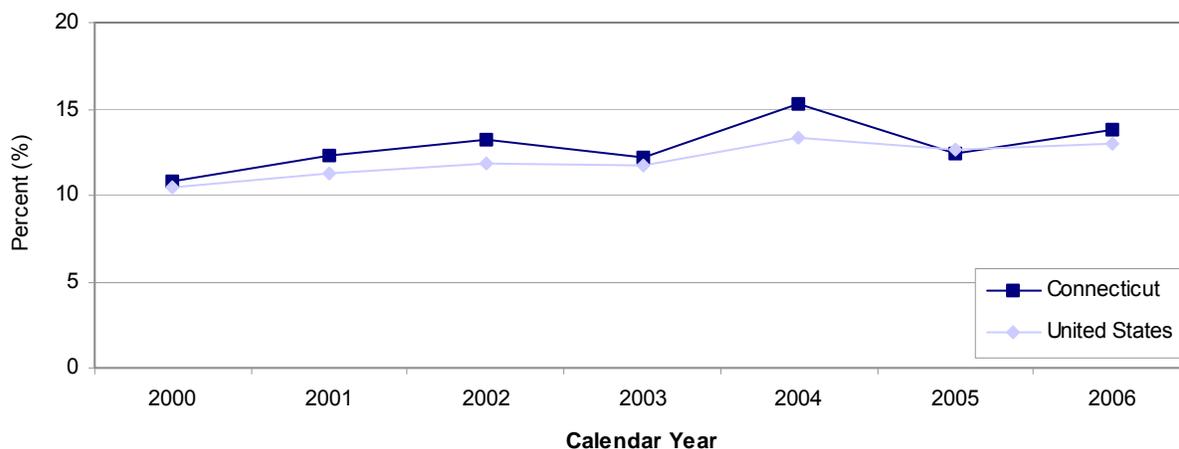
Note About Estimates and Sample Weighting

Since surveys such as the BRFSS include only a sample of the population of interest, all prevalence percentages represent an estimate of the true population percent. In order to calculate these estimates, data from the sample are weighted to be more representative of the entire population. BRFSS data are weighted to reflect the age and sex distribution of the Connecticut population as well as to account for the probability of selection for the survey.

Selection probability is affected by the number of individuals living in a household and the number of telephone numbers serving a particular household. All percentages in this report reflect results after the application of the weighting formula. More information about the weighting formula used in the BRFSS can be found on the CDC website at www.cdc.gov/brfss.

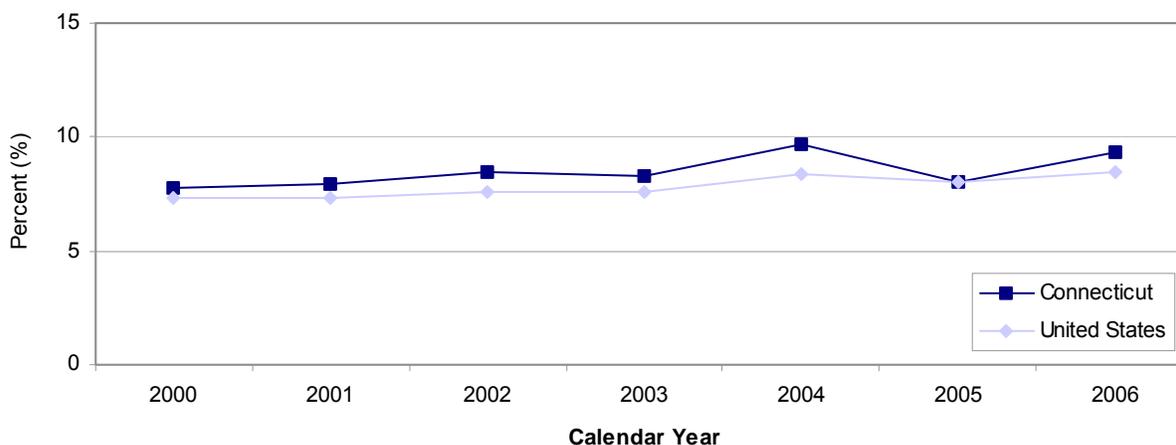
Asthma Prevalence among Adults

**Lifetime Asthma Prevalence by Year
Connecticut & United States, 18+ years old (2000 - 2006)**



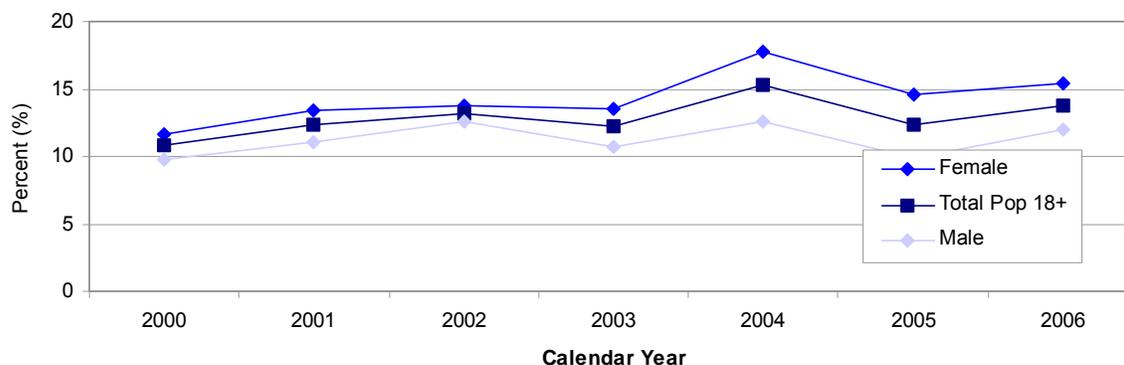
From 2000-2006, the prevalence of lifetime asthma among adults 18 years of age and older was slightly higher in Connecticut than in the United States as a whole. During this time period, lifetime asthma prevalence experienced a slight increase. In Connecticut, lifetime asthma prevalence among adults increased from 10.8% in 2000 to 13.8% in 2006, while the United States as a whole increased from 10.5% in 2000 to 13.0% in 2006.

**Current Asthma Prevalence by Year
Connecticut & United States, 18+ years old (2000 - 2006)**



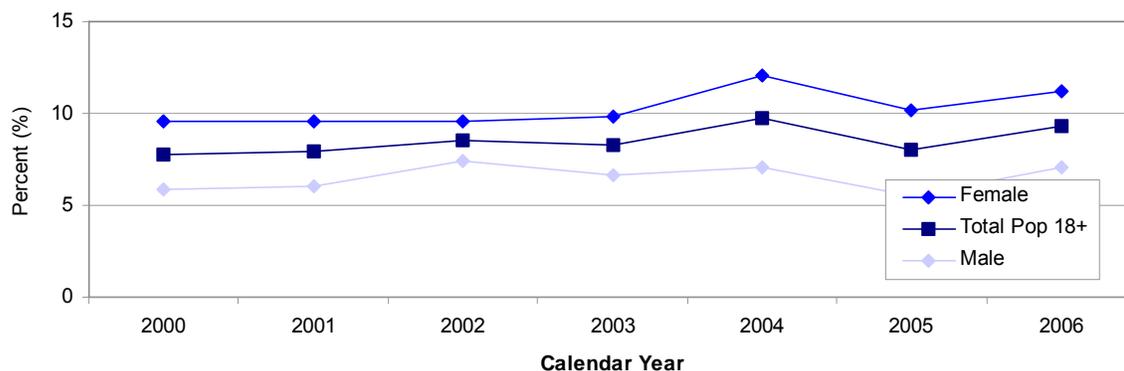
From 2000-2006, the prevalence of current asthma among adults was slightly higher in Connecticut than in the United States as a whole. During this time period, current asthma prevalence experienced a slight increase. In Connecticut, current asthma prevalence among adults increased from 7.8% in 2000 to 9.3% in 2006, while the United States as a whole increased from 7.3% in 2000 to 8.5% in 2006.

**Lifetime Asthma Prevalence by Year & Sex
Connecticut, 18+ years old (2000 - 2006)**



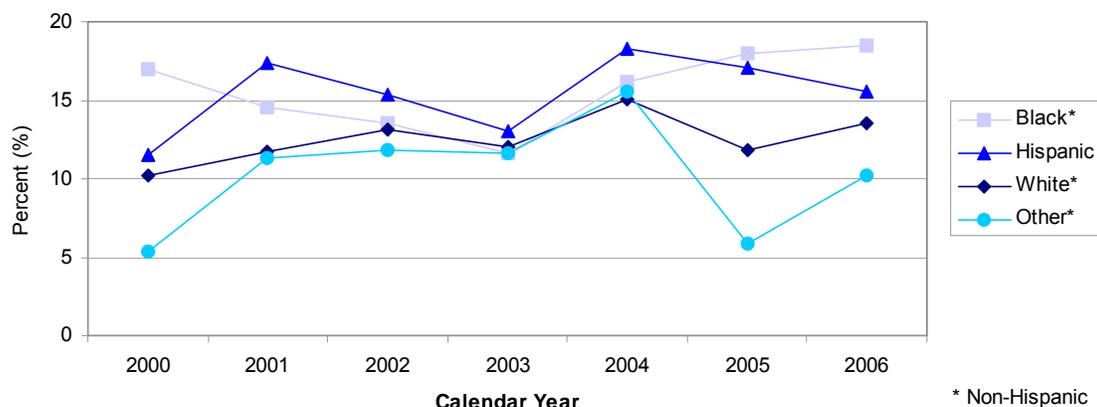
From 2000-2006, the prevalence of lifetime asthma was consistently higher among women than among men in Connecticut. During this time period, lifetime asthma prevalence among women increased from 11.7% in 2000 to 15.4% in 2006, and prevalence among men increased from 9.8% in 2000 to 12.0% in 2006.

**Current Asthma Prevalence by Year & Sex
Connecticut, 18+ years old (2000 - 2006)**



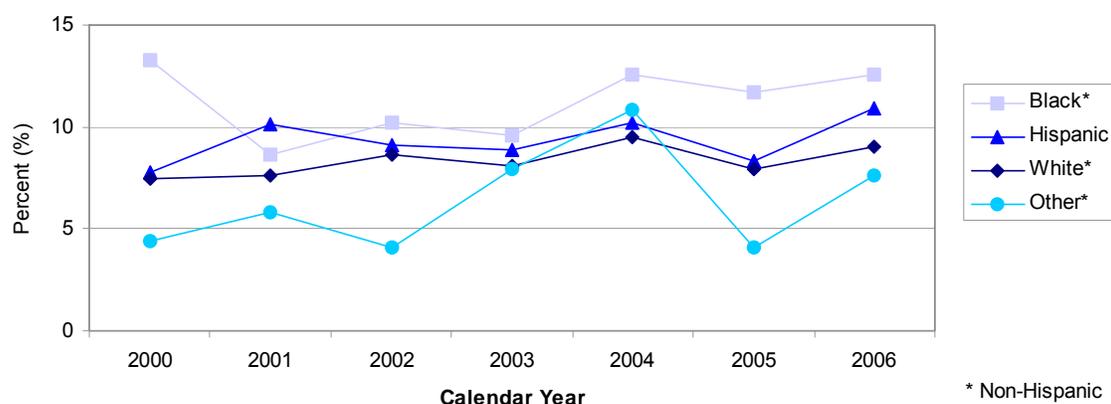
From 2000-2006, the prevalence of current asthma was consistently higher among women than among men. During this time period, current asthma prevalence among women increased from 9.6% in 2000 to 11.2% in 2006, and prevalence among men increased from 5.9% in 2000 to 7.1% in 2006.

**Lifetime Asthma Prevalence by Year & Race / Ethnicity
Connecticut, 18+ years old (2000 - 2006)**



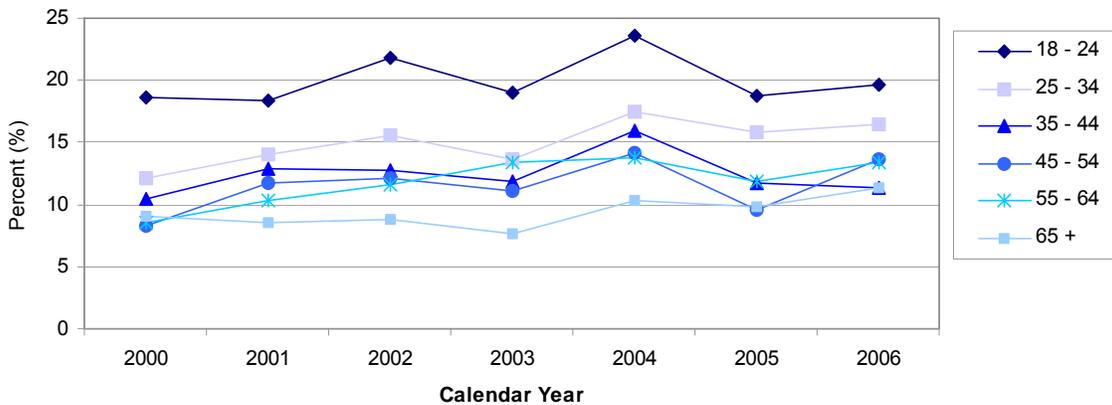
From 2000-2006, the prevalence of lifetime asthma among adults was generally higher among Hispanics and non-Hispanic blacks than among non-Hispanic whites and non-Hispanic others. Lifetime asthma prevalence among non-Hispanic blacks experienced a steady decrease from 2000-2003, and then steadily increased from 2003-2006. Lifetime asthma prevalence among Hispanics steadily decreased from 2004-2006, but remained higher than it had been in 2000.

**Current Asthma Prevalence by Year & Race / Ethnicity
Connecticut, 18+ years old (2000 - 2006)**



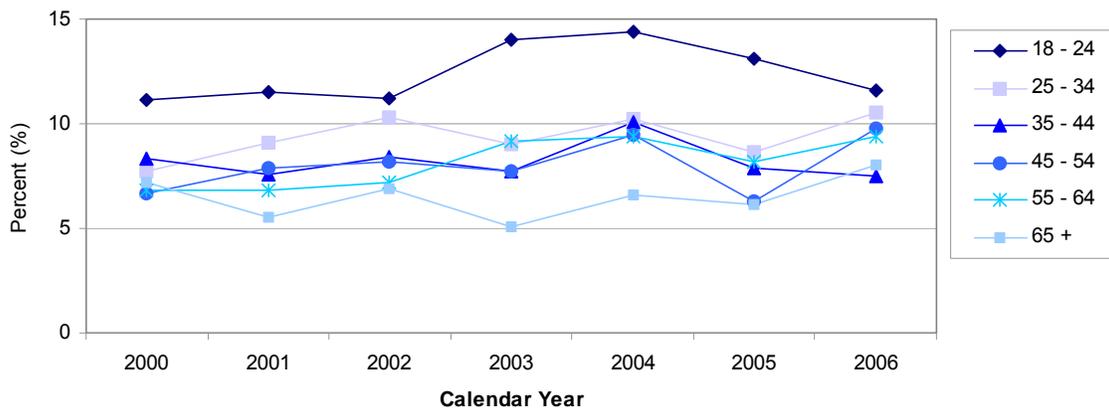
From 2000-2006, the prevalence of current asthma among adults was generally higher among Hispanics and non-Hispanic blacks than among non-Hispanic whites and non-Hispanic others. Current asthma prevalence generally increased from 2000 to 2006 across all racial/ethnic groups.

**Lifetime Asthma Prevalence by Year & Age Group
Connecticut, 18+ years old (2000 - 2006)**



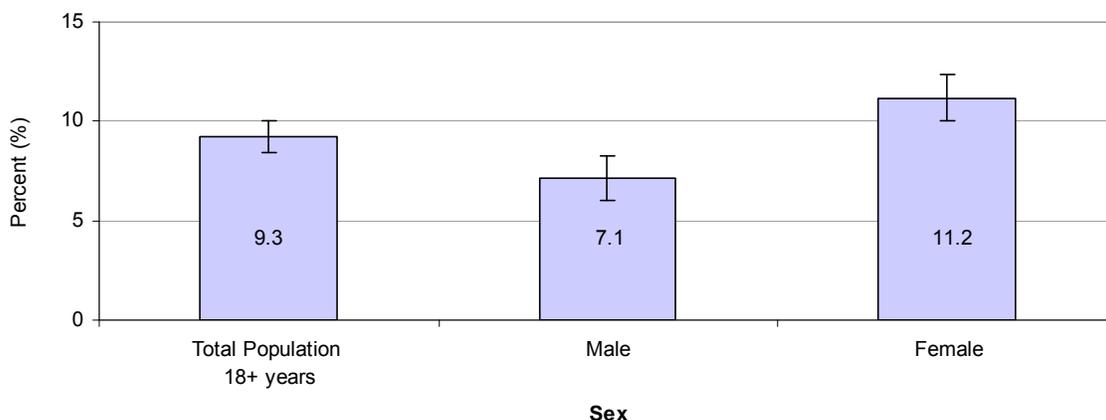
From 2000-2006, the prevalence of lifetime asthma was consistently highest among adults aged 18-24 years and generally lowest among adults aged 65 years and over. Lifetime asthma prevalence generally increased from 2000 to 2006 across all age groups.

**Current Asthma Prevalence by Year & Age Group
Connecticut, 18+ years old (2000 - 2006)**



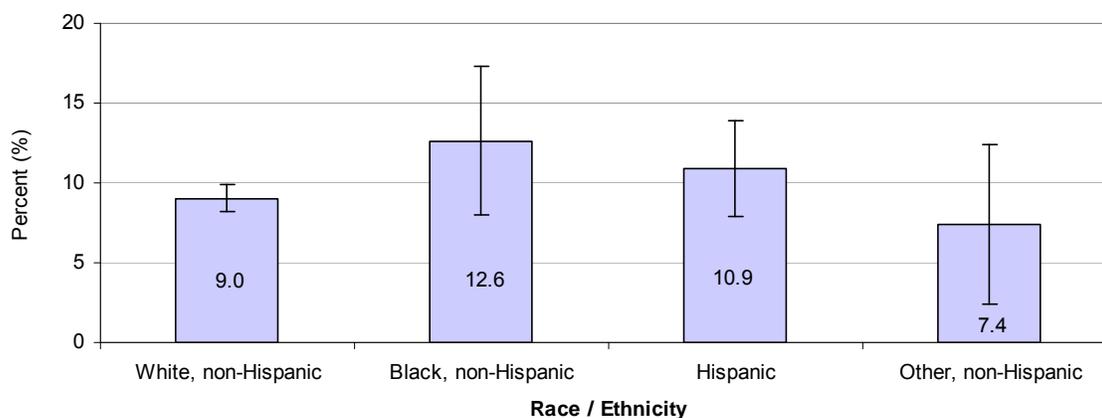
From 2000-2006, the prevalence of current asthma was consistently higher among adults aged 18-24 years and generally lowest among adults aged 65 years and over. Current asthma prevalence generally increased from 2000 to 2006 across all age groups, except among adults aged 35-44 years.

**Current Asthma Prevalence by Sex
Connecticut, 18+ years old (2006)**



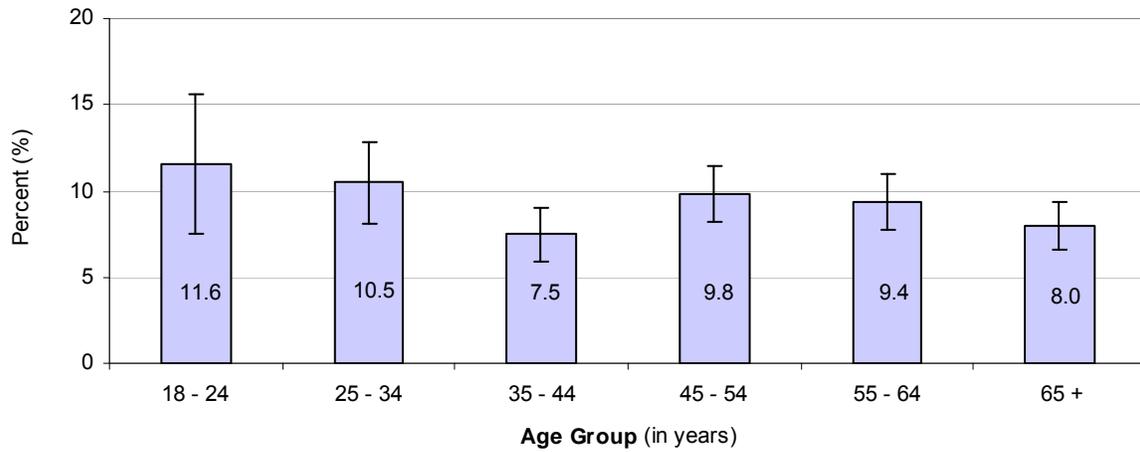
In 2006, 13.8% (372,000) of Connecticut adults reported ever having been diagnosed with asthma (*data not shown*), and 9.3% (248,000) reported that they currently have asthma. The prevalence of current asthma among women (11.2% or 157,000) was statistically significantly higher than the prevalence among men (7.1% or 91,000).

**Current Asthma Prevalence by Race / Ethnicity
Connecticut, 18+ years old (2006)**



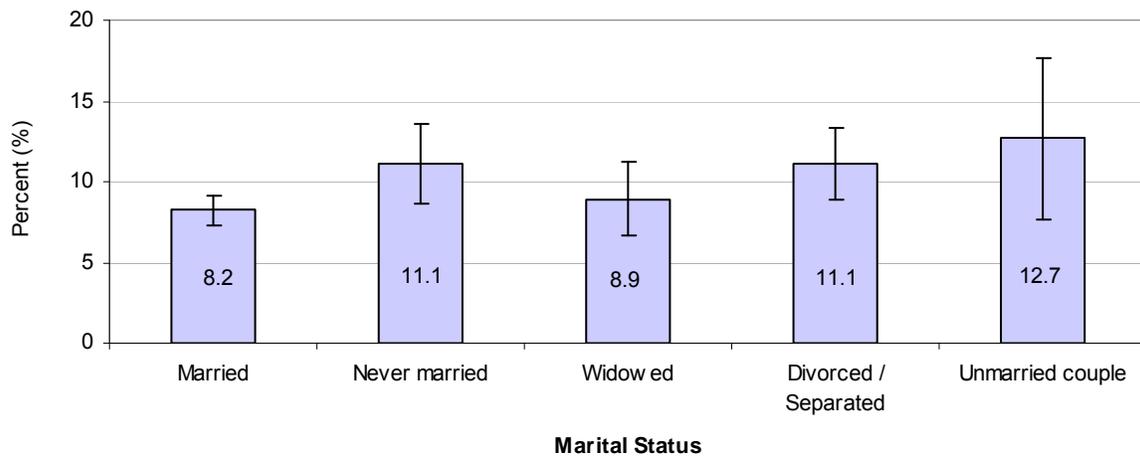
In 2006, the prevalence of current asthma was higher among non-Hispanic black (12.6%) and Hispanic (10.9%) adults than among non-Hispanic white (9.0%) and non-Hispanic other (7.4%) adults. However, there were no statistically significant differences in current asthma prevalence among adults by race/ethnicity.

**Current Asthma Prevalence by Age Group
Connecticut, 18+ years old (2006)**



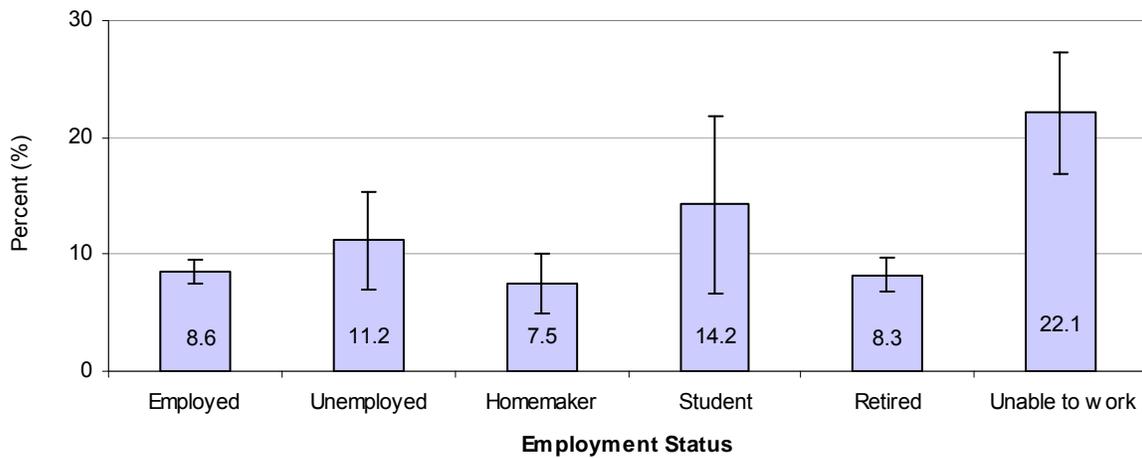
In 2006, the prevalence of current asthma among adults was highest among those aged 18-24 years and lowest among those aged 35-44 years. However, there were no statistically significant differences in current asthma prevalence among adults by age group. With the exception of adults aged 35-44 years, current asthma prevalence appeared to decrease as age increased.

**Current Asthma Prevalence by Marital Status
Connecticut, 18+ years old (2006)**



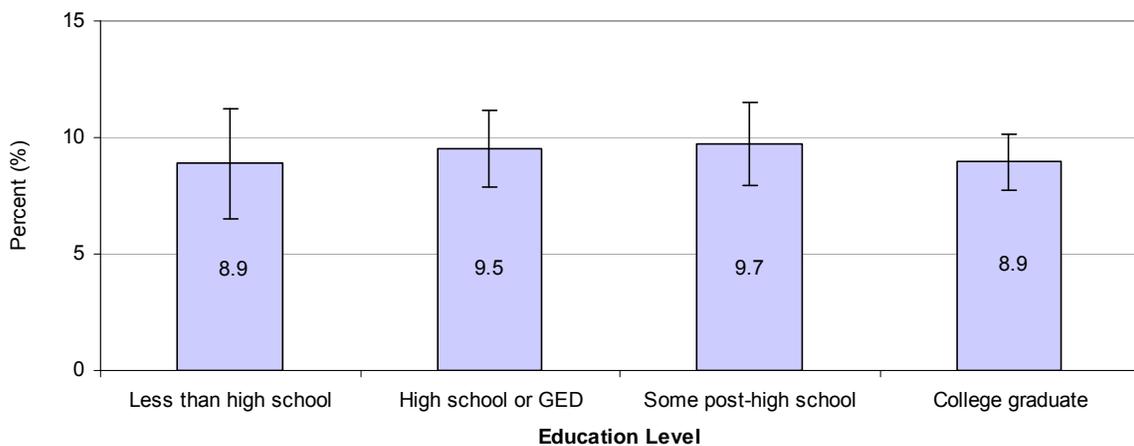
In 2006, the prevalence of current asthma among adults was highest among unmarried couples and lowest among those who were married. However, there were no statistically significant differences in current asthma prevalence among adults by marital status.

**Current Asthma Prevalence by Employment Status
Connecticut, 18+ years old (2006)**



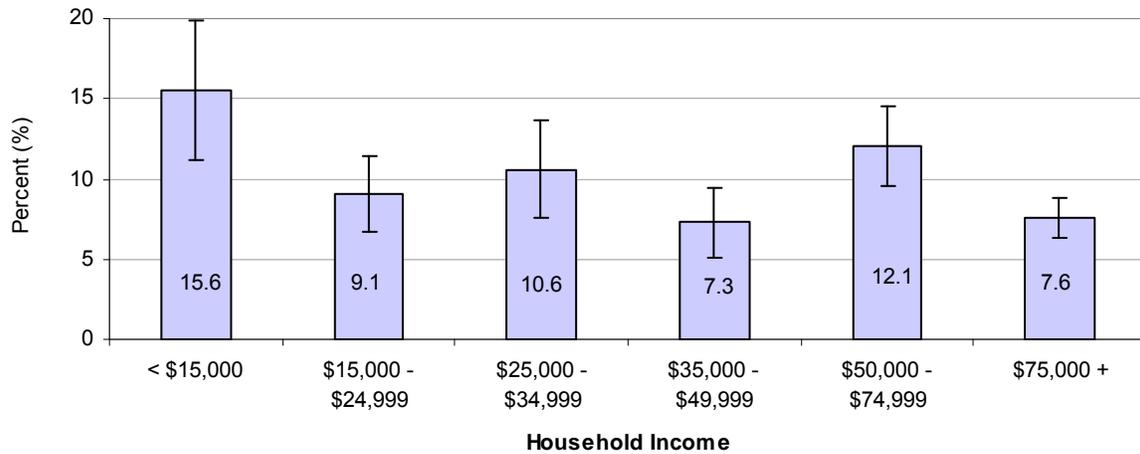
In 2006, the prevalence of current asthma among adults was highest among those who were unable to work and lowest among those who were homemakers. Current asthma prevalence among adults who were unable to work was statistically significantly higher than the prevalence among adults who were employed, unemployed, homemakers, and retired.

**Current Asthma Prevalence by Education Level
Connecticut, 18+ years old (2006)**



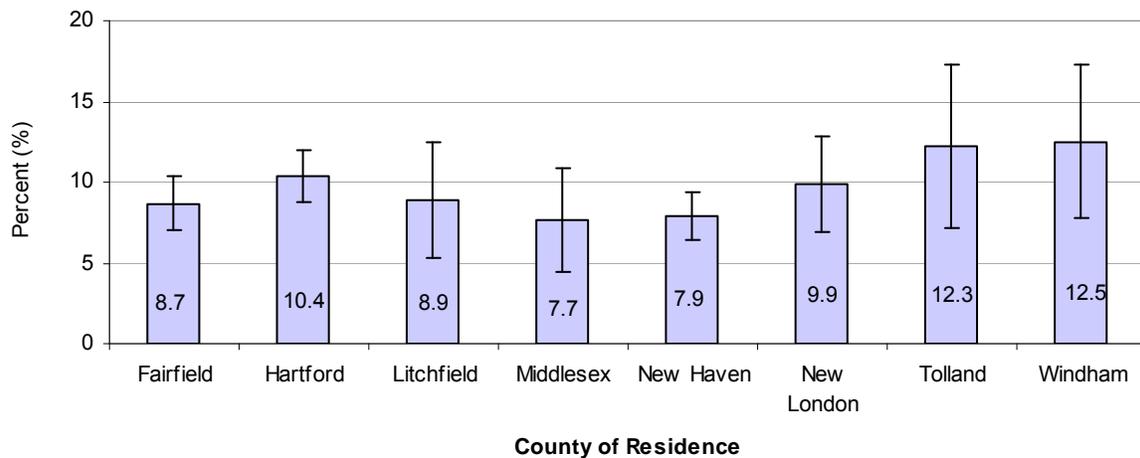
In 2006, there were no statistically significant differences in the prevalence of current asthma among adults by education level.

**Current Asthma Prevalence by Household Income
Connecticut, 18+ years old (2006)**



In 2006, the prevalence of current asthma among adults was highest among those earning less than \$15,000 and lowest among those earning between \$35,000-\$49,999. Current asthma prevalence among adults earning less than \$15,000 or between \$50,000-\$74,999 were statistically significantly higher than among those earning between \$35,000-\$49,999 or more than \$75,000.

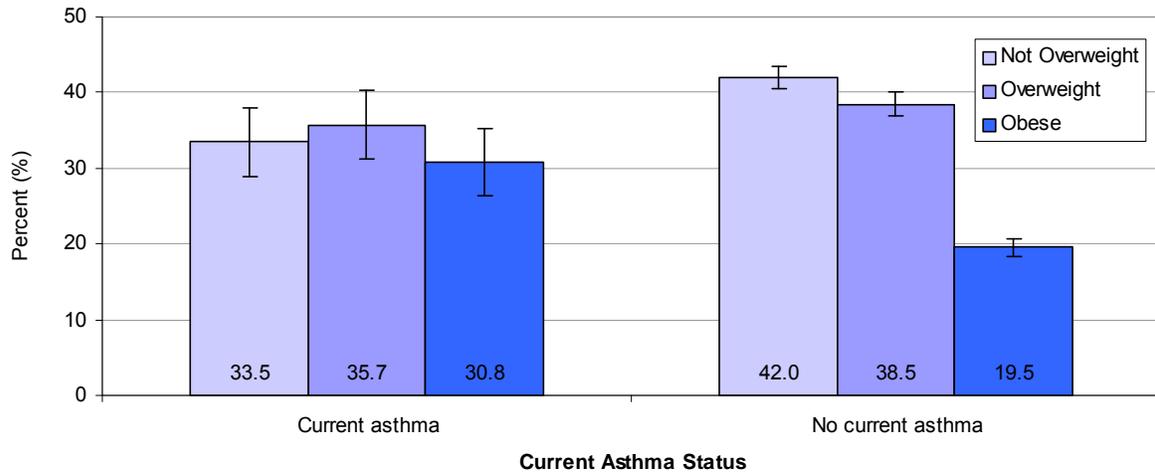
**Current Asthma Prevalence by County of Residence
Connecticut, 18+ years old (2006)**



In 2006, the prevalence of current asthma among adults was highest in Windham county (12.5%), followed by Tolland (12.3%), Hartford (10.4%), and New London (9.9%) counties. However, there were no statistically significant differences in current asthma prevalence among adults by county of residence. It should be noted that the county with the highest number of adults with current asthma was Hartford county (69,000), followed by Fairfield (59,000) and New Haven (51,000) counties.

Comparisons of Adults With and Without Asthma

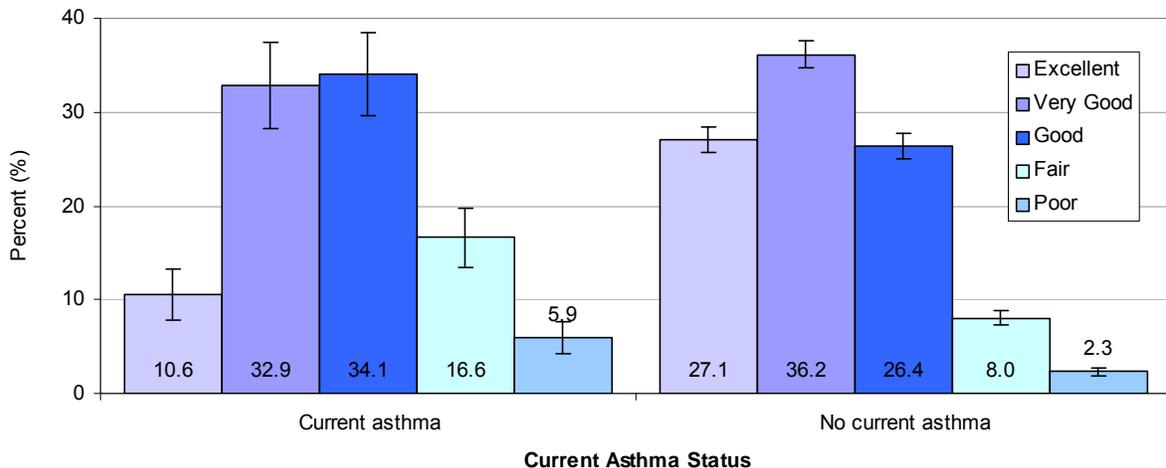
**Comparison of Weight Status by Current Asthma Status
Connecticut, 18+ years old (2006)**



In 2006, adults with current asthma (66.5%) were statistically significantly more likely than adults without current asthma (58.0%) to report being overweight or obese.

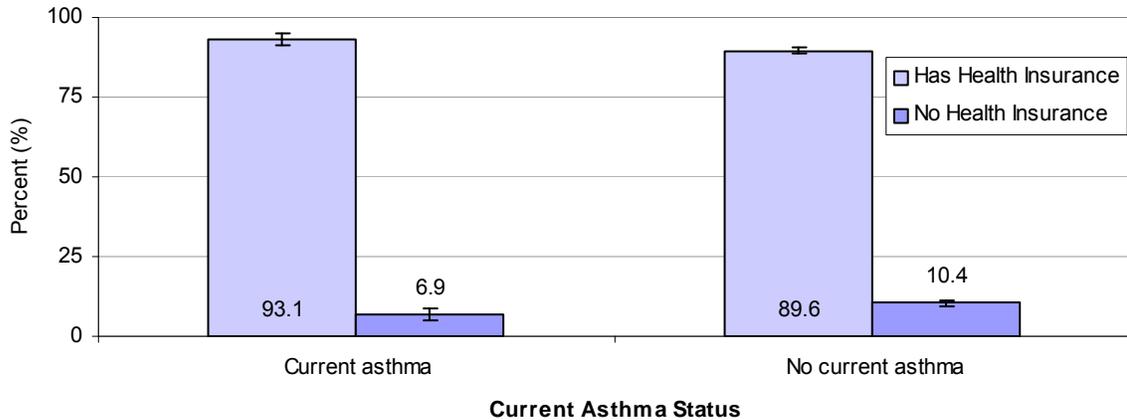
Overweight is defined as a body mass index ≥ 25 m/kg² but < 30 m/kg²; obese is defined as a body mass index ≥ 30 m/kg². Body mass index was derived from self-reported height and weight data; it is calculated as the weight (in kilograms) divided by the height (in meters) squared.

**Comparison of General Health Status by Current Asthma Status
Connecticut, 18+ years old (2006)**



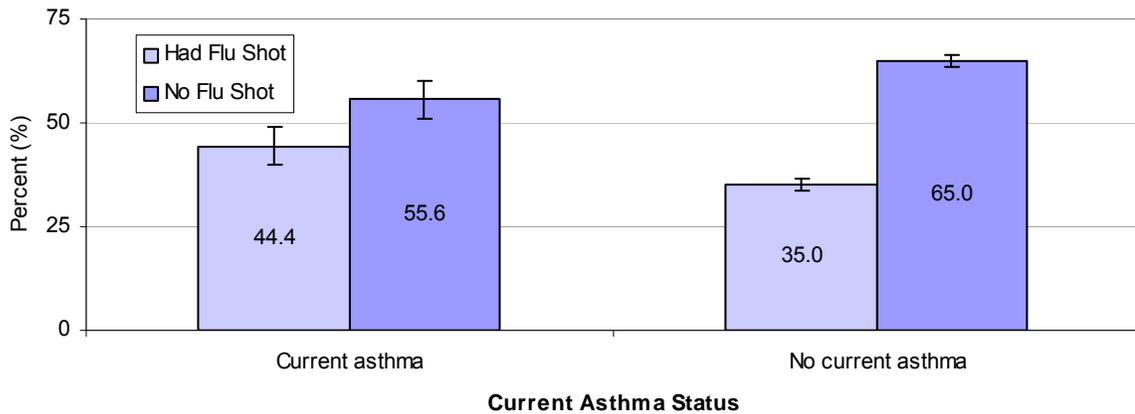
In 2006, adults with current asthma were statistically significantly more likely than adults without current asthma to report their general health status as fair or poor (22.5% vs. 10.3%). Likewise, adults with current asthma were statistically significantly less likely to report their general health status as excellent compared to adults without current asthma (10.6% vs. 27.1%).

**Comparison of Health Care Coverage Status
by Current Asthma Status
Connecticut, 18+ years old (2006)**



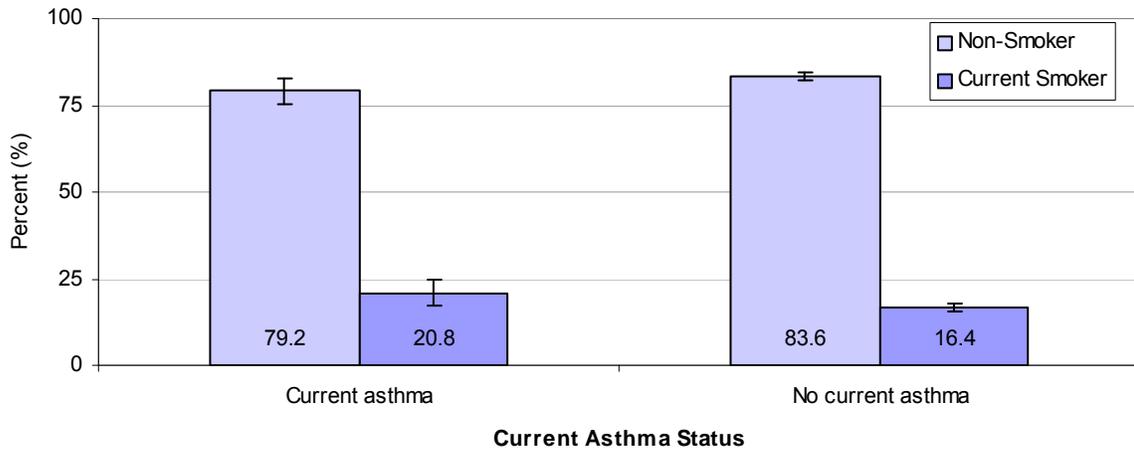
In 2006, adults with current asthma were statistically significantly more likely than adults without current asthma to have health insurance (93.1% vs. 89.6%).

**Comparison of Receiving Flu Shot in Past 12 Months
by Current Asthma Status
Connecticut, 18+ years old (2006)**



The CDC recommends that all persons with asthma receive a flu shot each year. In 2006, Connecticut adults with current asthma were statistically significantly more likely than adults without current asthma to receive a flu shot in the last 12 months (44.4% vs. 35.0%). Still, less than half of adults with current asthma received a flu shot.

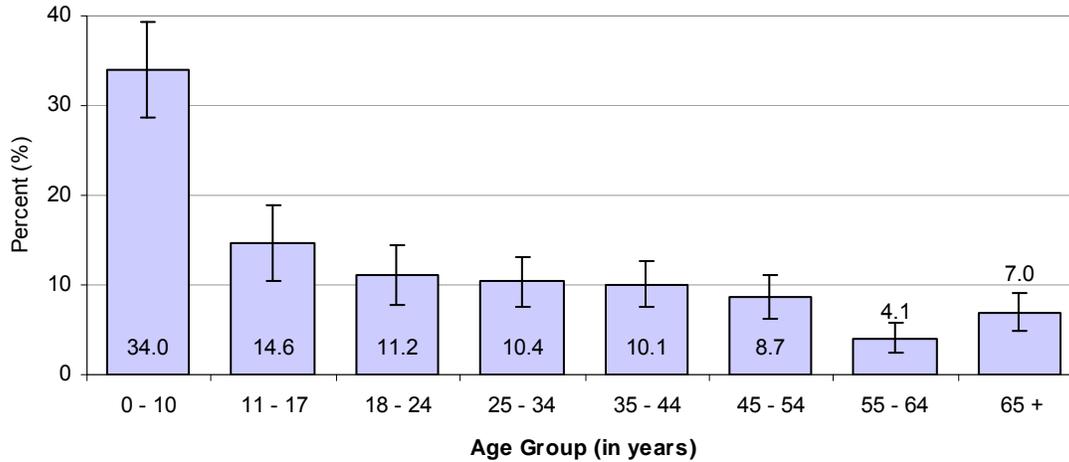
**Comparison of Current Smoking Status by Current Asthma Status
Connecticut, 18+ years old (2006)**



In 2006, adults with current asthma were more likely than adults without current asthma to be current smokers (20.8% vs. 16.4%), although the difference was not statistically significant.

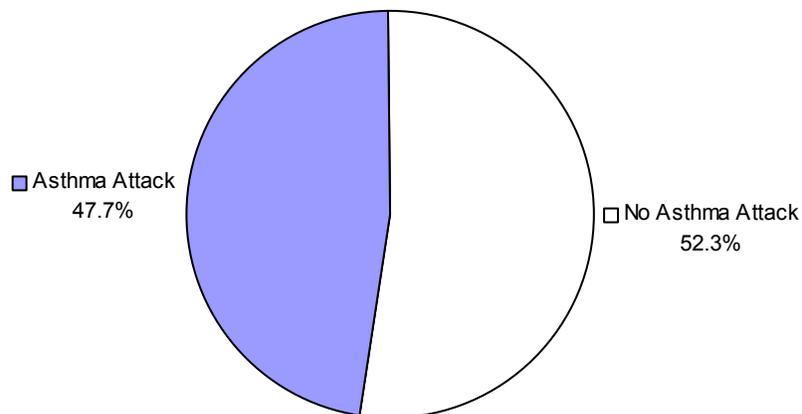
Asthma Management among Adults

Age at Asthma Diagnosis
Connecticut, 18+ years old with Lifetime Asthma (2005)



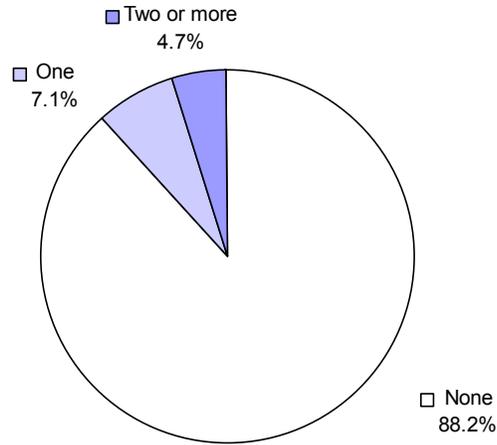
In 2005, over one out of three adults with lifetime asthma were diagnosed between birth and 10 years of age. In general, the likelihood of being diagnosed with asthma appeared to decrease as age increased, except for adults aged 65 years and over. The differences in the percentage of adults who were initially diagnosed between the ages of 0-10 years and all the other age groups were statistically significant.

Episode of Asthma or Asthma Attack in Past 12 Months
Connecticut, 18+ years old with Current Asthma (2005)



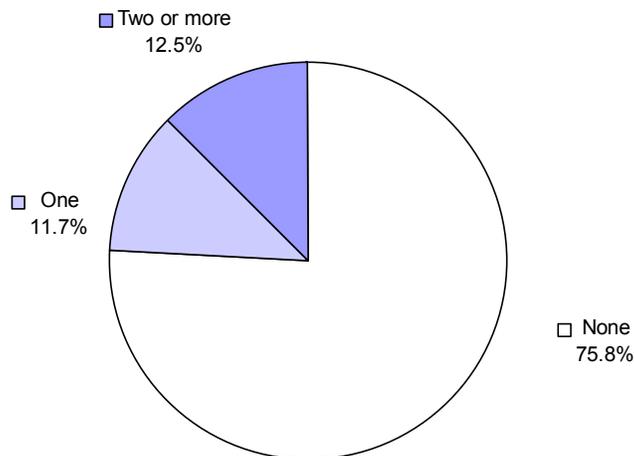
In 2005, 47.7% (94,000) of adults with current asthma experienced an asthma attack in the past 12 months, down from 55% in 2003. Hispanic adults (63.6%) were more likely to report experiencing an asthma attack in the past 12 months when compared to non-Hispanic black (53.7%) and non-Hispanic white (45.4%) adults, but the differences were not statistically significant (*data not shown*).

**Number of Emergency Room or Urgent Care Center Visits
for Asthma in Past 12 Months
Connecticut, 18+ years old with Current Asthma (2005)**



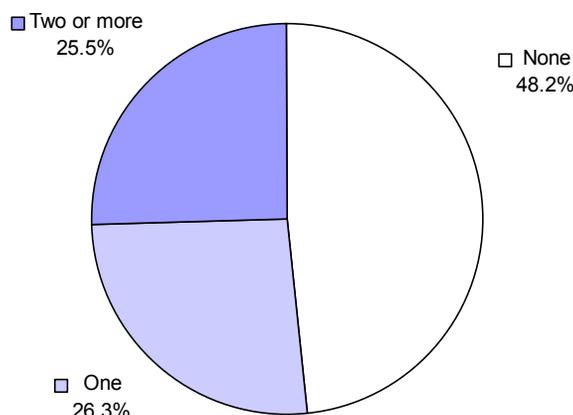
In 2005, 11.8% (23,000) of adults with current asthma visited an emergency room or urgent care center for asthma at least once in the past 12 months, down from 17% in 2003. Non-Hispanic black adults (29.8%) were more likely to report visiting an emergency room or urgent care center for asthma at least once in the past 12 months when compared to Hispanic (21.9%) and non-Hispanic white (8.4%) adults. The difference between non-Hispanic blacks and non-Hispanic whites was statistically significant (*data not shown*).

**Number of Doctor Visits for Urgent Treatment of
Worsening Asthma Symptoms in Past 12 Months
Connecticut, 18+ years old with Current Asthma (2005)**



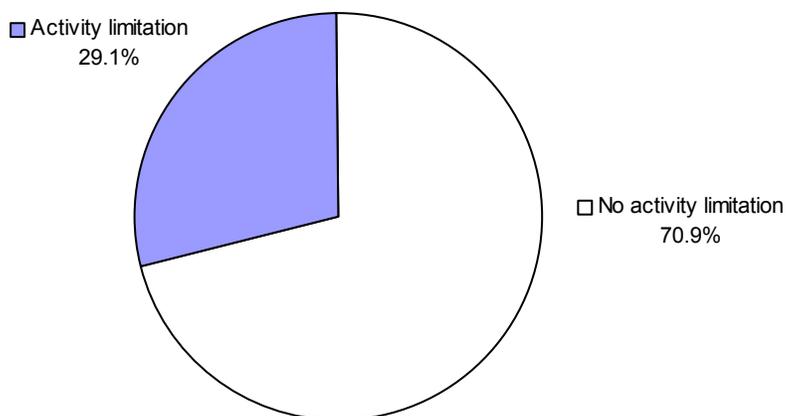
In 2005, 24.2% (47,000) of adults with current asthma visited their doctor for urgent treatment of worsening asthma symptoms at least once in the past 12 months, down from 30% in 2003. Hispanic adults (33.3%) were more likely to report visiting their doctor for urgent treatment of worsening asthma symptoms at least once in the past 12 months when compared to non-Hispanic black (24.9%) and non-Hispanic white (23.0%) adults, but the differences were not statistically significant (*data not shown*).

**Number of Routine Checkups for Asthma in Past 12 Months
Connecticut, 18+ years old with Current Asthma (2005)**



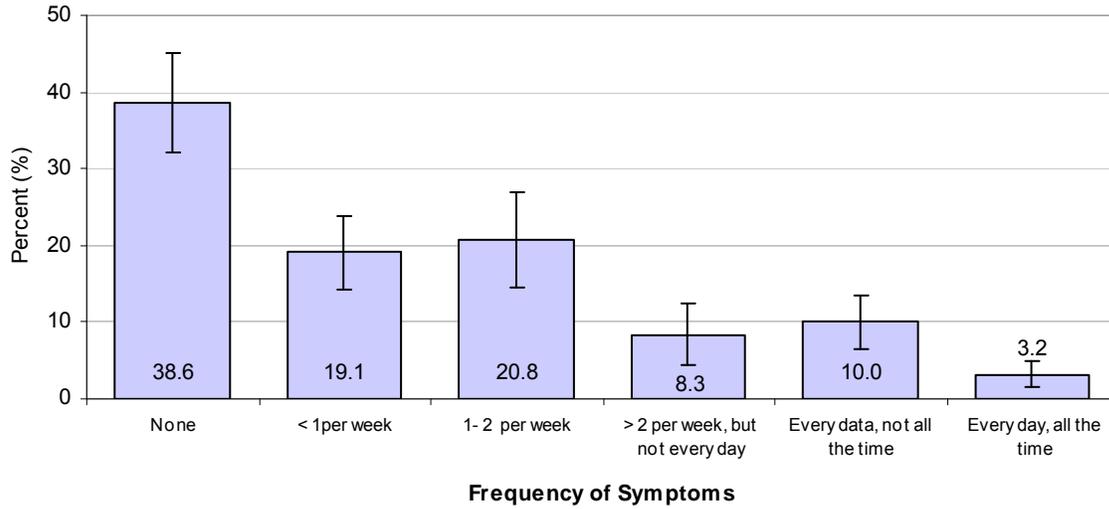
The National Asthma Education and Prevention Program (NAEPP) guidelines recommend that people with asthma visit their physician at least two times per year for routine follow-up. In 2005, only 25.5% (50,000) of adults with current asthma had two or more routine checkups for asthma in the past 12 months, down from 33% in 2003. About half (48.2%) had no routine checkup for asthma in the past 12 months, up from 35% in 2003. Hispanic adults (55.0%) were more likely to report not having a routine checkup for asthma in the past 12 months when compared to non-Hispanic black (51.3%) and non-Hispanic white (48.4%) adults, but the differences were not statistically significant (*data not shown*).

**Activity Limitation due to Asthma in Past 12 Months
Connecticut, 18+ years old with Current Asthma (2005)**



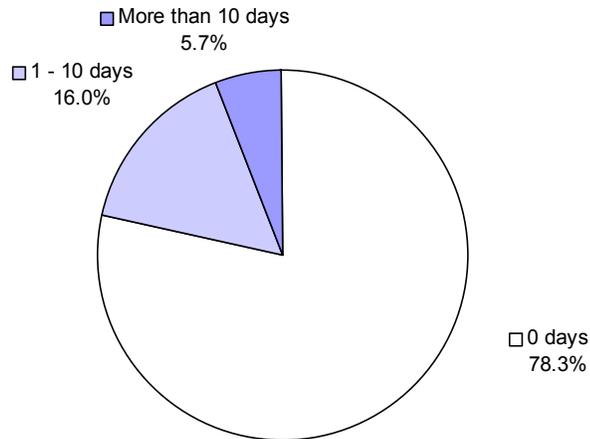
In 2005, 29.1% (56,000) of adults with current asthma reported activity limitation in the past 12 months because of their asthma, down from 35% in 2003. Hispanic adults (59.3%) were more likely to report activity limitation in the past 12 months because of their asthma when compared to non-Hispanic white (26.0%) and non-Hispanic black (25.7%) adults. The difference between Hispanics and non-Hispanic whites was statistically significant (*data not shown*).

**Frequency of Asthma Symptoms in Past 30 Days
Connecticut, 18+ years old with Current Asthma (2005)**



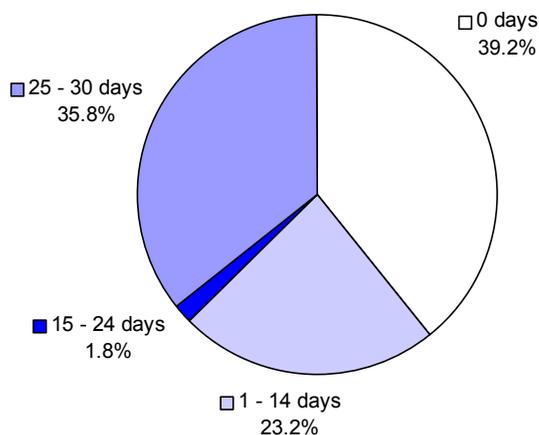
In 2005, 61.4% (118,000) of adults with current asthma reported experiencing some asthma symptoms in the past 30 days, down from 71.7% in 2003. Over 40% of adults with asthma reported experiencing asthma symptoms at least once a week in the past 30 days. Hispanic adults (76.3%) were more likely to report experiencing some asthma symptoms in the past 30 days when compared to non-Hispanic whites (60.7%) and non-Hispanic blacks (46.8%), but the differences were not statistically significant (*data not shown*).

**Number of Days Difficult to Stay Asleep due to Asthma in Past 30 Days
Connecticut, 18+ years old with Current Asthma (2005)**



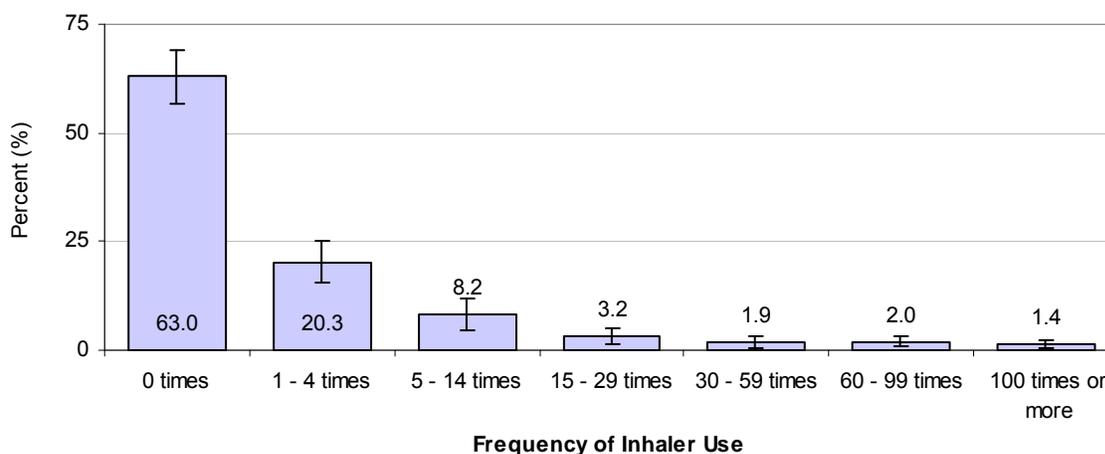
In 2005, 21.7% (43,000) of adults with current asthma reported difficulty sleeping due to asthma on at least one of the past 30 days, down from 41% in 2003. Approximately 6% of adults with current asthma had difficulty sleeping because of their asthma on more than 10 of the past 30 days. Hispanic adults (43.2%) were more likely to report difficulty sleeping due to asthma on at least one of the past 30 days when compared to non-Hispanic black (25.4%) and non-Hispanic white (19.8%) adults, but the differences were not statistically significant (*data not shown*).

**Number of Days Taking Prescribed Medication
to Prevent Asthma Attack in Past 30 Days
Connecticut, 18+ years old with Current Asthma (2005)**



In 2005, 60.8% (119,000) of adults with current asthma reported taking medication to prevent an asthma attack on at least one of the past 30 days. Approximately one-third (35.8%) of adults with current asthma reported taking medications on 25-30 of the past 30 days. Non-Hispanic white adults (62.0%) were more likely to report taking medication to prevent an asthma attack on at least one of the past 30 days when compared to Hispanic (57.5%) and non-Hispanic black (44.1%) adults, but the differences were not statistically significant (*data not shown*).

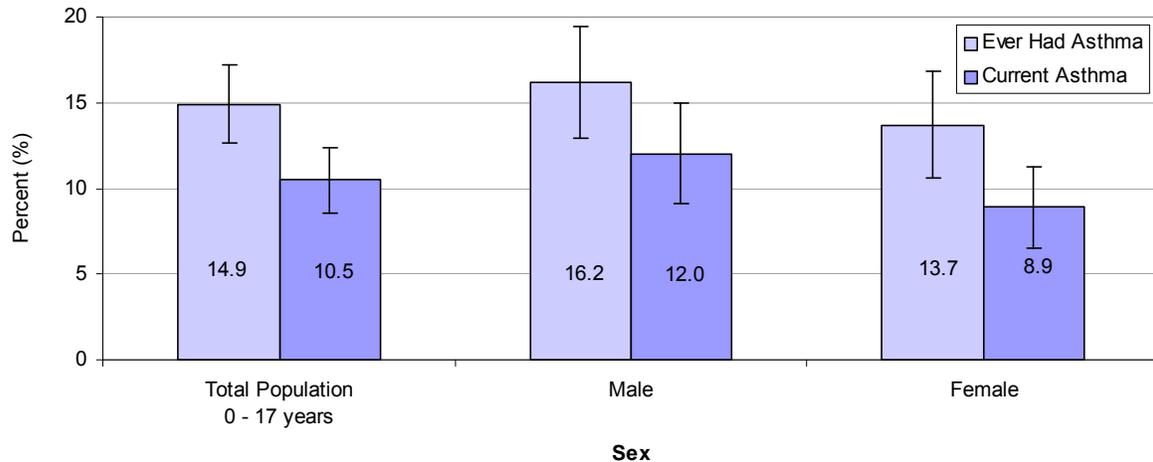
**Frequency of Prescription Asthma Inhaler Use
during an Asthma Attack in Past 30 Days
Connecticut, 18+ years old with Current Asthma (2005)**



In 2005, 37.0% (71,000) of adults with current asthma reported using a prescription asthma inhaler during an asthma attack at least once in the past 30 days, and 16.7% reported using their inhaler more than 4 times in the past 30 days. Hispanic adults (58.0%) were more likely to report using a prescription asthma inhaler during an asthma attack at least once in the past 30 days when compared to non-Hispanic black (37.5%) and non-Hispanic white (35.5%) adults, but the differences were not statistically significant (*data not shown*).

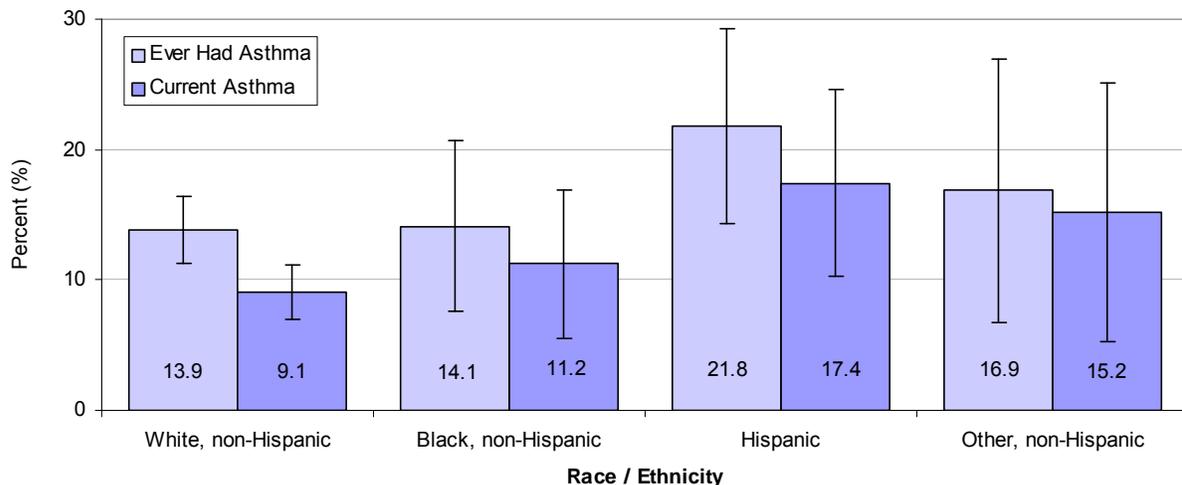
Asthma Prevalence among Children

**Lifetime & Current Asthma Prevalence by Sex
Connecticut, 0 - 17 years old (2005)**



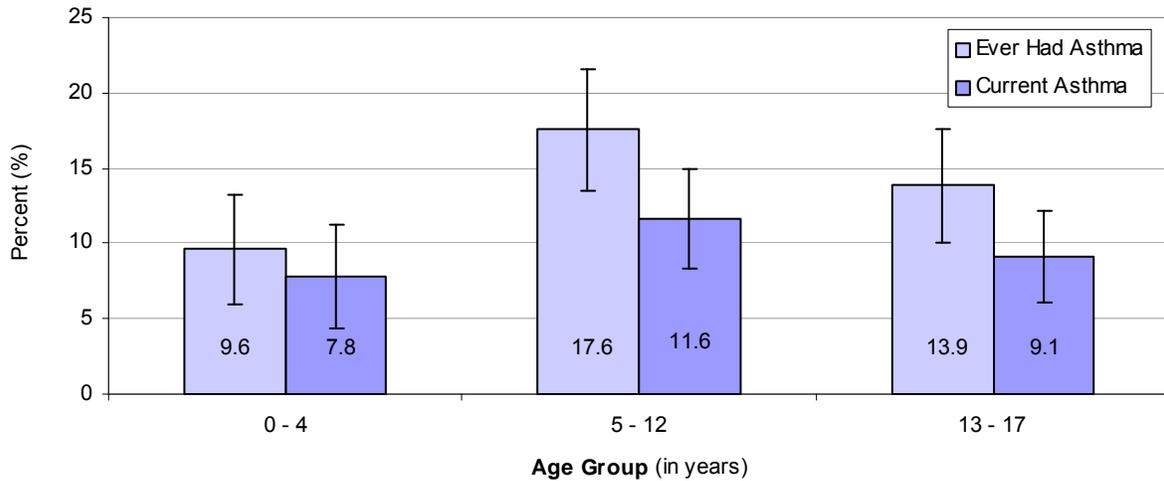
In 2005, 14.9% (123,000) of Connecticut children reported ever having been diagnosed with asthma; 10.5% (86,000) of children reported that they currently have asthma. The prevalence of both lifetime and current asthma among boys was higher than the prevalence among girls, but the difference was not statistically significant. In 2005, 12.0% (50,000) of boys reported having current asthma compared to 8.9% (36,000) of girls.

**Lifetime & Current Asthma Prevalence by Race / Ethnicity
Connecticut, 0 - 17 years old (2005)**



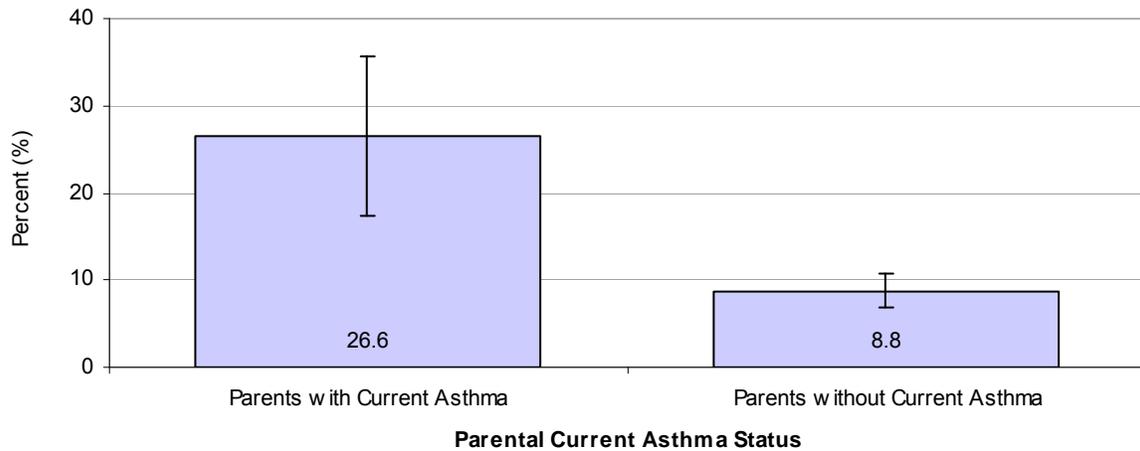
In 2005, Hispanic children reported the highest prevalence of both lifetime and current asthma compared to other racial/ethnic groups. The prevalence of current asthma among children was highest among Hispanics (17.4%), followed by non-Hispanic others (15.2%) and non-Hispanic blacks (11.2%), and was lowest among non-Hispanic whites (9.1%). However, there were no statistically significant differences in current asthma prevalence among children by race/ethnicity.

**Lifetime & Current Asthma Prevalence by Age Group
Connecticut, 0 - 17 years old (2005)**



In 2005, children aged 5-12 years reported the highest prevalence of both lifetime and current asthma when compared to other age groups. The prevalence of current asthma among children was highest among those aged 5-12 years (11.6%), followed by those aged 13-17 years (9.1%) and aged 0-4 years (7.8%). However, there were no statistically significant differences in current asthma prevalence among children by age.

**Current Asthma Prevalence by Parental Current Asthma Status
Connecticut, 0 - 17 years old (2005)**



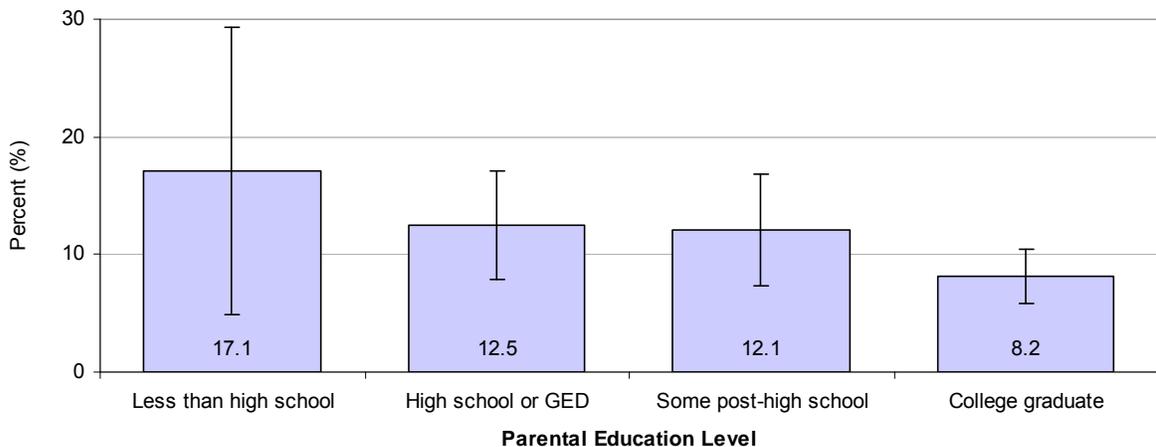
In 2005, children whose parents had current asthma (26.6%) were about three times more likely to have current asthma when compared to children whose parents did not have current asthma (8.8%). The result was statistically significant.

**Current Asthma Prevalence by Parental Marital Status
Connecticut, 0 - 17 years old (2005)**



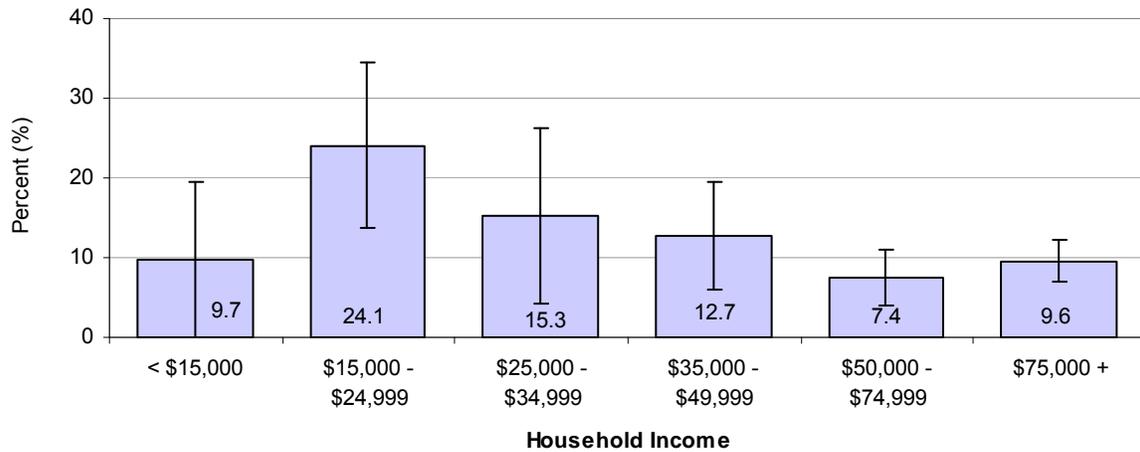
In 2005, the prevalence of current asthma among children whose parents were married was statistically significantly lower than the prevalence among children whose parents were never married or divorced/separated.

**Current Asthma Prevalence by Parental Education Level
Connecticut, 0 - 17 years old (2005)**



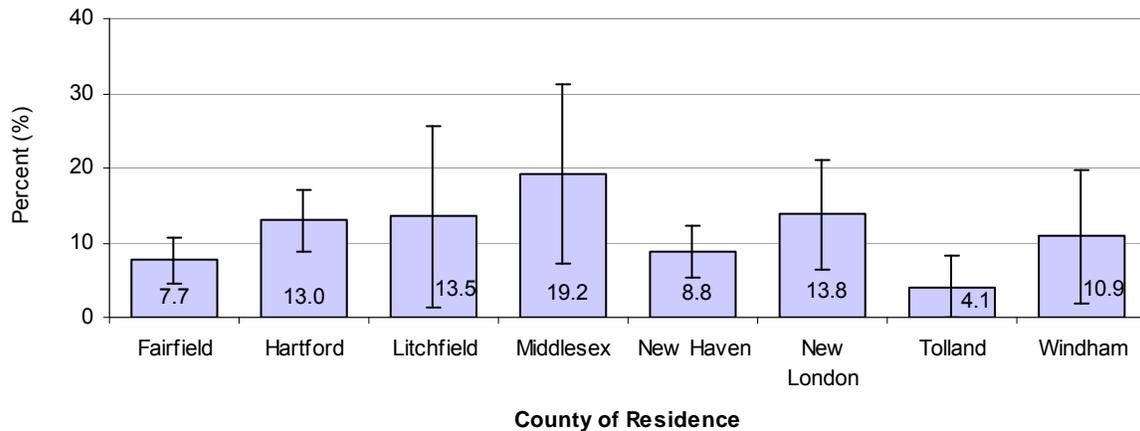
In 2005, the prevalence of current asthma among children seemed to decrease with increasing parental education level, but the results were not statistically significant.

**Current Asthma Prevalence by Household Income
Connecticut, 0 - 17 years old (2005)**



In 2005, the prevalence of current asthma among children residing in a household with an annual income between \$15,000-\$24,999 was statistically significantly higher than the prevalence among children residing in a household with an annual income above \$50,000.

**Current Asthma Prevalence by County of Residence
Connecticut, 0 - 17 years old (2005)**



In 2005, the prevalence of current asthma among children was highest in Middlesex county (19.2%), followed by New London (13.8%), Litchfield (13.5%), and Hartford (13.0%) counties. However, there were no statistically significant differences in current asthma prevalence among children by county of residence. The county with the highest number of children with current asthma was Hartford county (26,000), followed by New Haven (18,000) and Fairfield (17,000) counties.

ASTHMA HOSPITALIZATIONS

Although there is no known cure for asthma, it can be managed through proper medical treatment and the avoidance of triggers. With proper management, asthma patients should not have to be admitted to the hospital because of their asthma. Despite this fact, each year many patients seek care at the hospital for their asthma symptoms.

Data on hospitalizations for asthma are available from the Office of Health Care Access (OHCA). Through its Discharge Database, OHCA collects hospital utilization data on all discharges from the acute care hospitals within Connecticut. This Data includes demographic, utilization, clinical, charge, payer and provider information. Although these data do not represent all persons with asthma, they provide a picture of those people with the most severe or poorly controlled asthma, and those who may not have adequate access to preventive care.

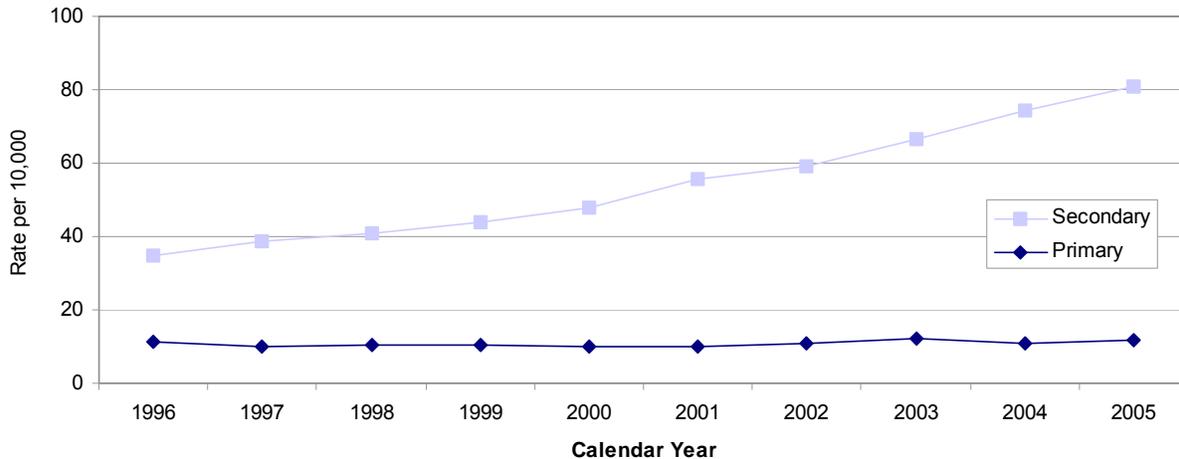
Being hospitalized for asthma is both very serious and very costly. Individuals who are admitted to the hospital because of asthma represent a group which should be targeted for programs aimed at improving asthma management.

Data are presented for all Connecticut residents admitted to the hospital with a diagnosis of asthma from 1996 to 2005. The data is based upon number of admissions to the hospital and not number of unique individuals who were admitted to the hospital. This section of the report examines asthma hospitalizations for adults and children separately. When examining asthma hospitalization trends over time, annual rates are presented from 1996 for the overall population, and from 2000 for rates by sex, race/ethnicity, and age. To gain an understanding of the current status of asthma hospitalization, data from the most recent 5-year period (2001-2005) were aggregated for examination and comparison.

Unless otherwise stated, the information presented is for hospitalizations with asthma coded as the primary diagnosis. Some limited information is provided about the hospitalization of patients with asthma listed as a secondary diagnosis. For the purposes of this report, an asthma diagnosis was defined as ICD-9-CM codes 493.0-493.9. Detailed tables of the results, including hospitalization rates by town, can be found in Appendices 3 and 4, respectively.

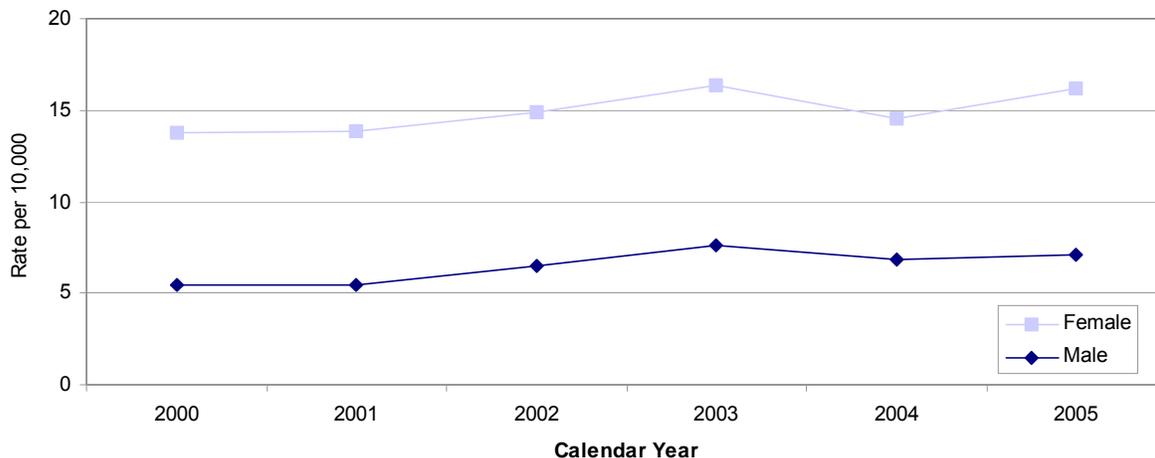
Asthma Hospitalizations among Adults

**Asthma Hospitalization Rates by Year and Primary & Secondary Diagnosis
Connecticut, 18+ years old (1996 - 2005)**



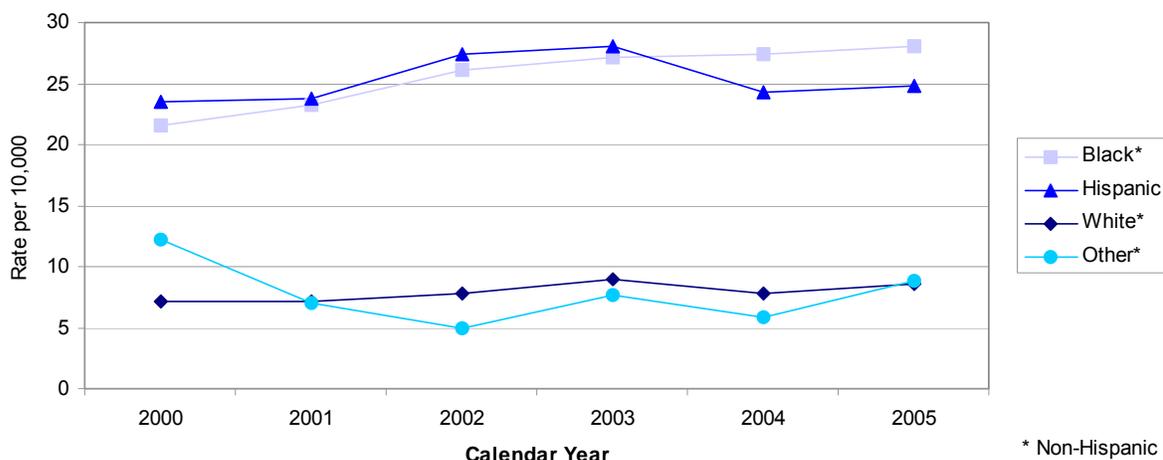
From 1996-2005 among adults 18 years of age and older, there was an average of 2,800 hospitalizations with a primary diagnosis of asthma and 14,000 hospitalizations with a secondary diagnosis of asthma each year. The hospitalization rate among adults with a primary diagnosis of asthma remained relatively stable from 1996-2005, with an average of 10.8 hospitalizations per 10,000. However, the hospitalization rate among adults with asthma as a secondary diagnosis showed a steady increase, from 34.6 per 10,000 in 1996 to 80.9 per 10,000 in 2005.

**Asthma Hospitalization Rates by Year & Sex (Primary Diagnosis)
Connecticut, 18+ years old (2000 - 2005)**



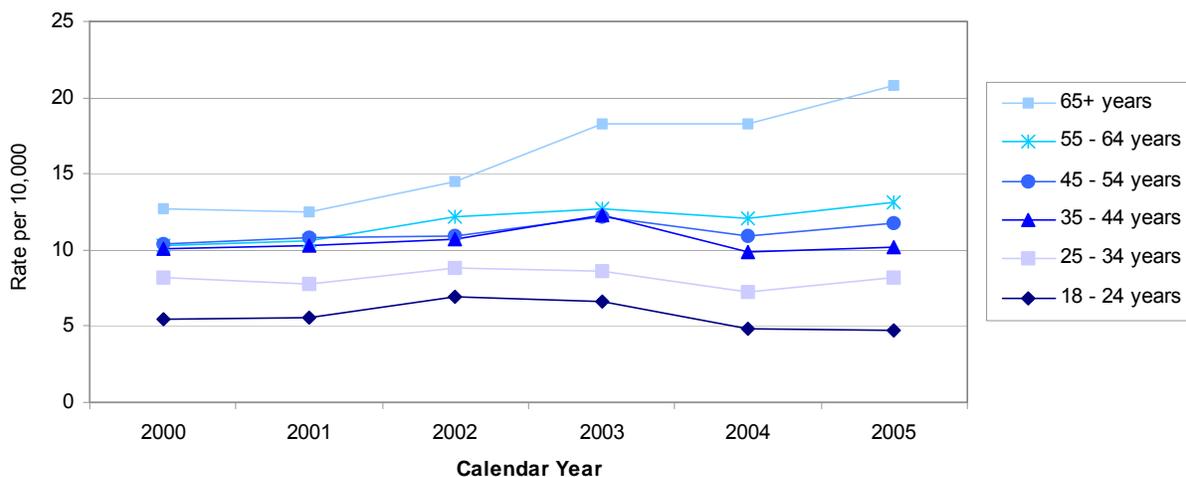
From 2000-2005, the rate of hospitalization with a primary diagnosis of asthma was consistently higher among women than among men. The asthma hospitalization rate among women increased 29% from 13.8 per 10,000 in 2000 to 16.2 per 10,000 in 2005; the rate among men increased 17% from 5.5 per 10,000 in 2000 to 7.1 per 10,000 in 2005.

**Asthma Hospitalization Rates by Year & Race / Ethnicity (Primary Diagnosis)
Connecticut, 18+ years old (2000 - 2005)**



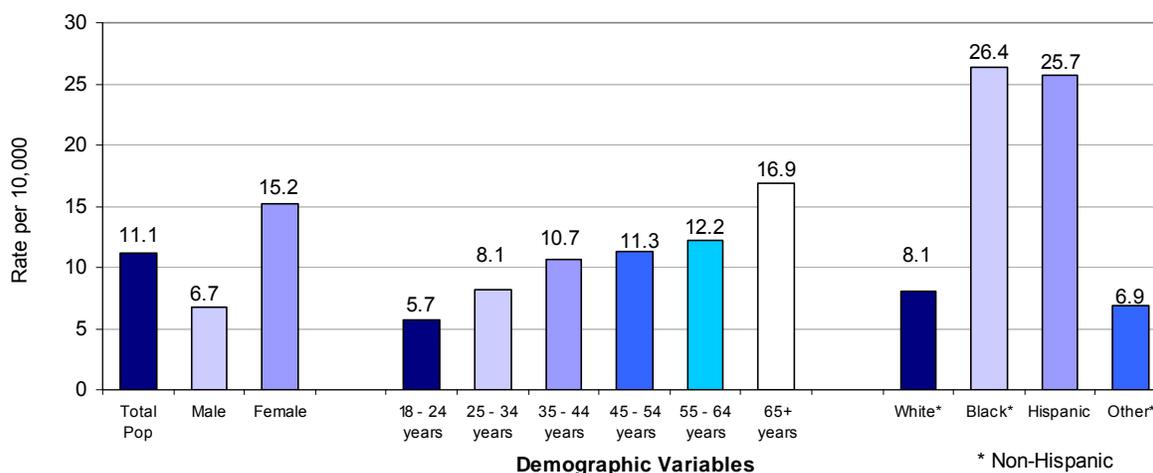
From 2000-2005, the rate of hospitalization among adults with a primary diagnosis of asthma was consistently higher among non-Hispanic blacks and Hispanics than among non-Hispanic whites and non-Hispanic others. The asthma hospitalization rate among non-Hispanic blacks increased 30% from 2000 to 2005, while the rates among non-Hispanic whites and Hispanics increased 20% and 5%, respectively, during the same time period.

**Asthma Hospitalization Rates by Year & Age Group (Primary Diagnosis)
Connecticut, 18+ years old (2000 - 2005)**



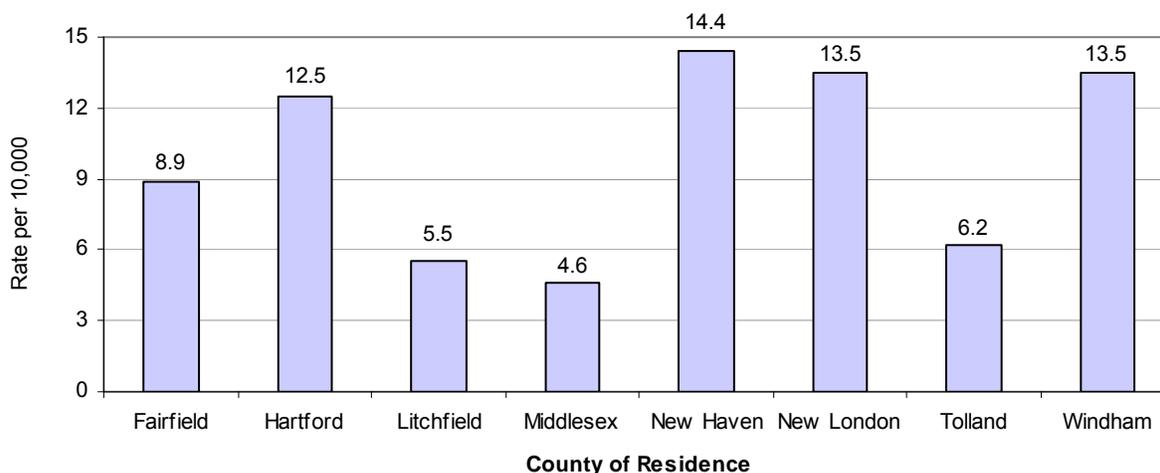
From 2000-2005, the rate of hospitalization among adults with a primary diagnosis of asthma was consistently highest among those aged 65 years and over, and the rate decreased as age decreased. The asthma hospitalization rates among adults aged 65 years and over, 55-64, 45-54, and 35-44 years increased 63%, 27%, 13%, and 1%, respectively, from 2000 to 2005, while the rates among adults aged 25-34 and 18-24 years decreased 1% and 14%, respectively, during the same time period.

Asthma Hospitalization Rates by Sex, Age Group & Race / Ethnicity (Primary Diagnosis), Connecticut, 18+ years old, 5-year period (2001 - 2005)



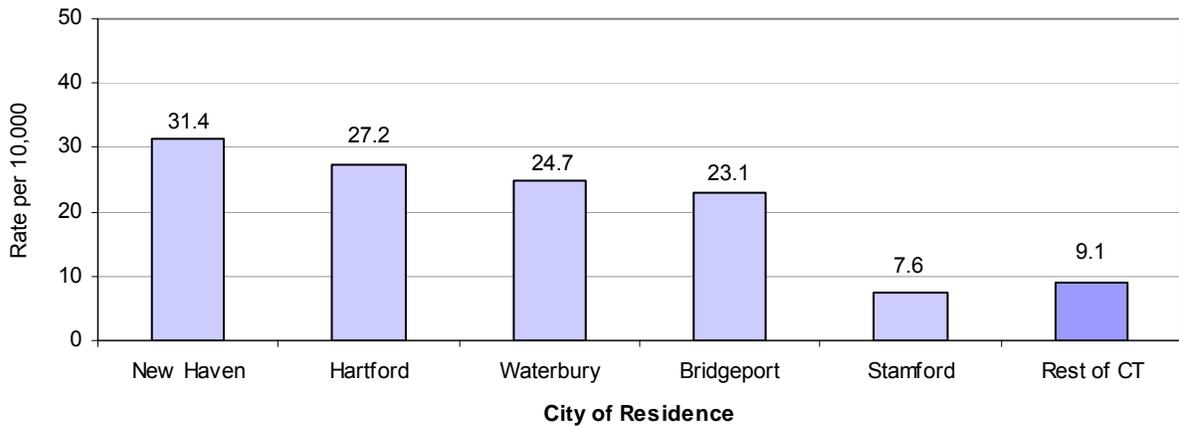
Over the 5-year period between 2001-2005, there was an average of 2,900 hospitalizations (11.1 per 10,000) each year among adults with a primary diagnosis of asthma. The asthma hospitalization rate among women was 2.3 times higher than among men. The rate among adults aged 65 years and over was 3 times higher than among adults aged 18-24 years, and the rate decreased as age decreased. Asthma hospitalization rates among non-Hispanic black and Hispanic adults were over 3 times higher than among non-Hispanic white and non-Hispanic other adults.

Asthma Hospitalization Rates by County of Residence (Primary Diagnosis) Connecticut, 18+ years old, 5-year period (2001 - 2005)



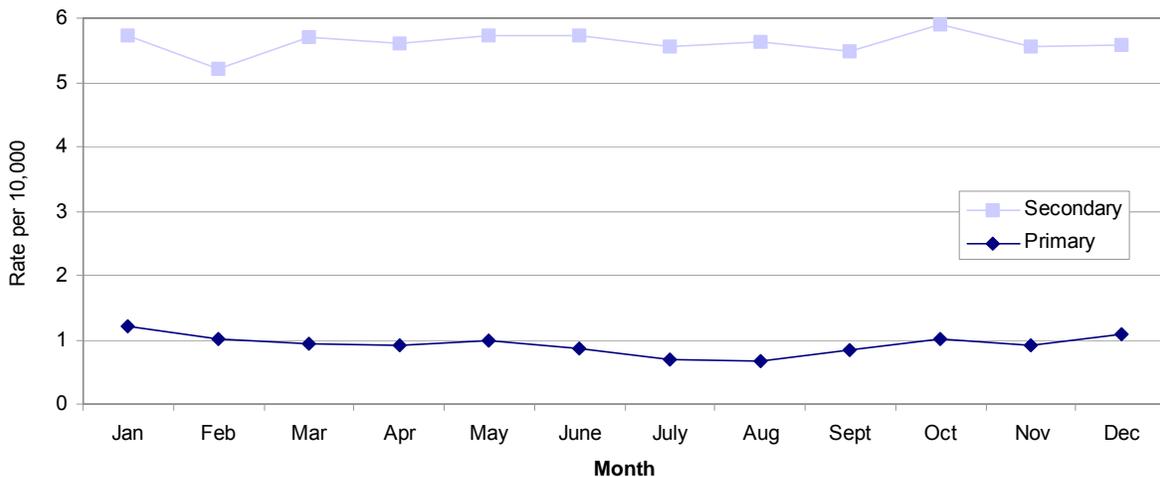
Between 2001-2005, the rate of hospitalization among adults with a primary diagnosis of asthma was highest in New Haven county (14.4 per 10,000), followed by New London (13.5), Windham (13.5), and Hartford (12.5) counties. It should be noted that the highest number of asthma hospitalizations took place among adults from New Haven county (920 each year), followed by Hartford (820) and Fairfield (590) counties.

Asthma Hospitalization Rates by 5 Largest Cities vs. Rest of CT (Primary Diagnosis), Connecticut, 18+ years old, 5-year period (2001 - 2005)



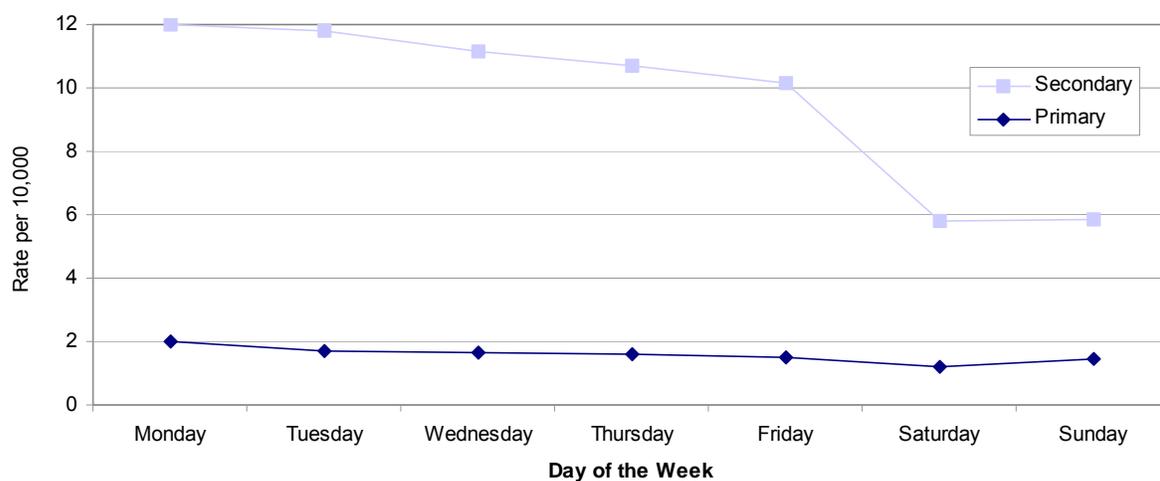
Between 2001-2005, the five largest cities accounted for 34.7% of all asthma hospitalizations among adults in Connecticut, with a combined rate of 22.7 per 10,000, as compared to 9.1 per 10,000 for the rest of the state. The 10 towns with the highest adult asthma hospitalization rates were New Haven (31.4 per 10,000), Windham (29.1), New London (28.3), Hartford (27.2), New Britain (25.4), Waterbury (24.7), Bridgeport (23.1), Bristol (21.3), Norwich (16.6), and East Lyme (16.4). A breakdown of adult asthma hospitalization rates by town can be found in Appendix 4.

Asthma Hospitalization Rates by Month and Primary & Secondary Diagnosis Connecticut, 18+ years old, 5-year period (2001 - 2005)



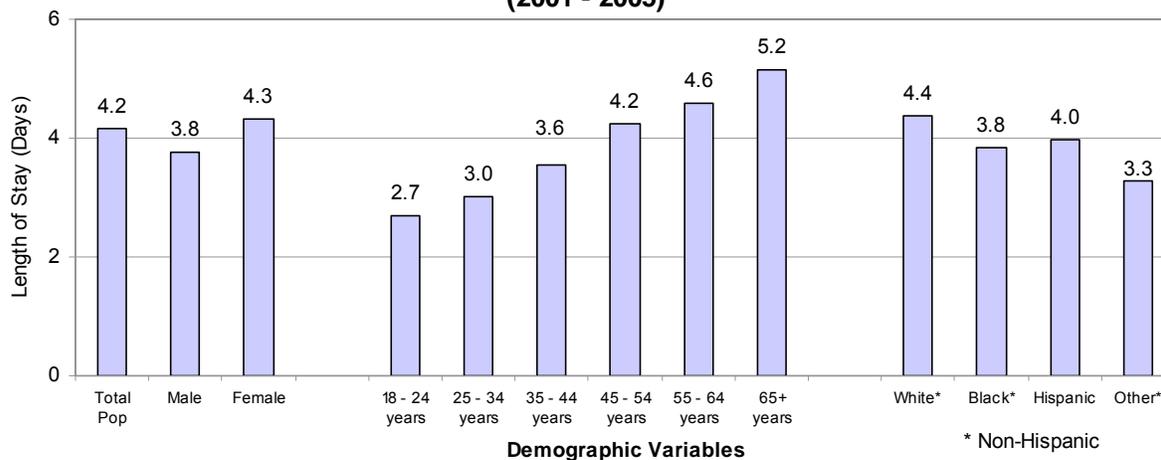
Between 2001-2005, hospitalizations among adults with a primary diagnosis of asthma showed a seasonal pattern with the highest rates occurring in late fall and winter (October to January). The lowest rates were seen during the summer (June to September). Hospitalizations with a secondary diagnosis of asthma showed the highest rate in October.

Asthma Hospitalization Rates by Day of the Week and Primary & Secondary Diagnosis, Connecticut, 18+ years old, 5-year period (2001 - 2005)



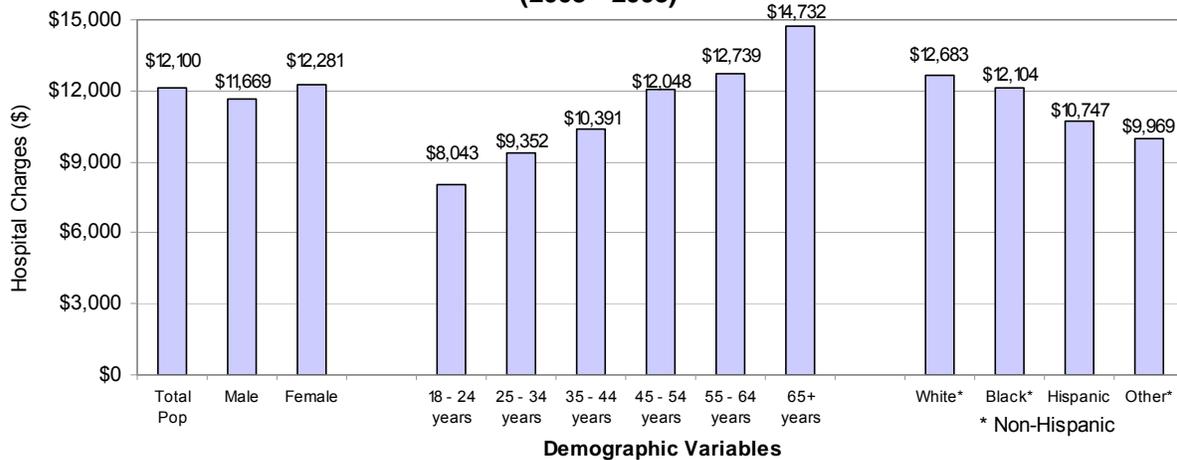
Between 2001-2005, hospitalizations among adults with either a primary or secondary diagnosis of asthma showed the highest rates on Monday. The rates decreased with each elapsing day of the week, with the lowest rates seen during the weekend.

Mean Length of Stay for Asthma Hospitalizations by Sex, Age Group & Race / Ethnicity (Primary Diagnosis), Connecticut, 18+ years old, 5-year period (2001 - 2005)



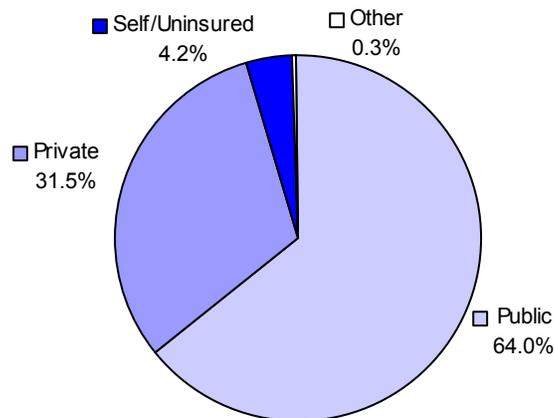
Between 2001-2005, the mean length of stay per hospitalization among adults with a primary diagnosis of asthma was 4.2 days. The length of stay was longer among women than among men; increased as age increased; and was longest among non-Hispanic white adults, followed by Hispanic, non-Hispanic black, and non-Hispanic other adults.

Mean Charges for Asthma Hospitalizations by Sex, Age Group & Race / Ethnicity (Primary Diagnosis), Connecticut, 18+ years old, 3-year period (2003 - 2005)



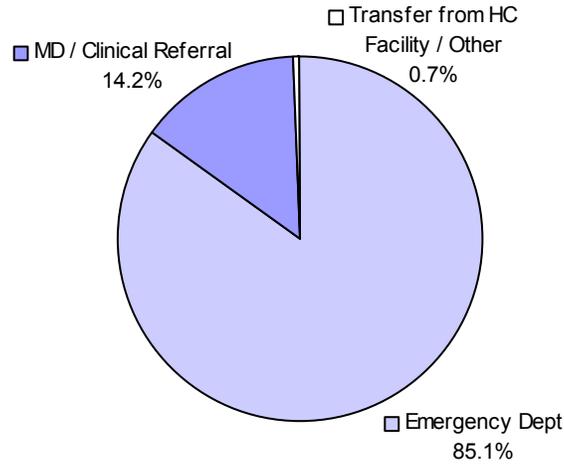
Between 2003-2005, the mean charge per hospitalization for adults with a primary diagnosis of asthma was \$12,100, which translates into a total charge of \$37,439,000 per year. The mean hospital charge was slightly higher among women than among men; increased as age increased; and was highest among non-Hispanic white adults, followed by non-Hispanic black, Hispanic, and non-Hispanic other adults.

Asthma Hospitalizations by Source of Payment (Primary Diagnosis) Connecticut, 18+ years old, 5-year period (2001 - 2005)



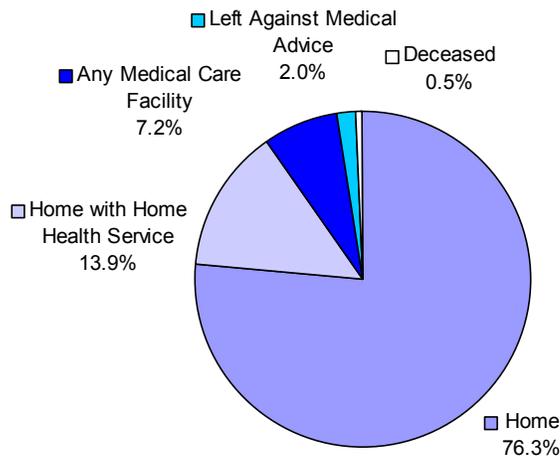
Between 2001-2005, almost two-thirds (64.0%) of all asthma hospitalization charges among adults were paid from public funds (i.e., Medicaid or Medicare). Private insurance (31.5%) was the second leading source of payment for asthma hospitalization charges.

**Asthma Hospitalizations by Source of Admission (Primary Diagnosis)
Connecticut, 18+ years old, 5-year period (2001 - 2005)**



Between 2001-2005, the majority of asthma hospitalizations among adults were admitted from the emergency department (85.1%). Physician referral (14.2%) was the second highest source of hospital admissions.

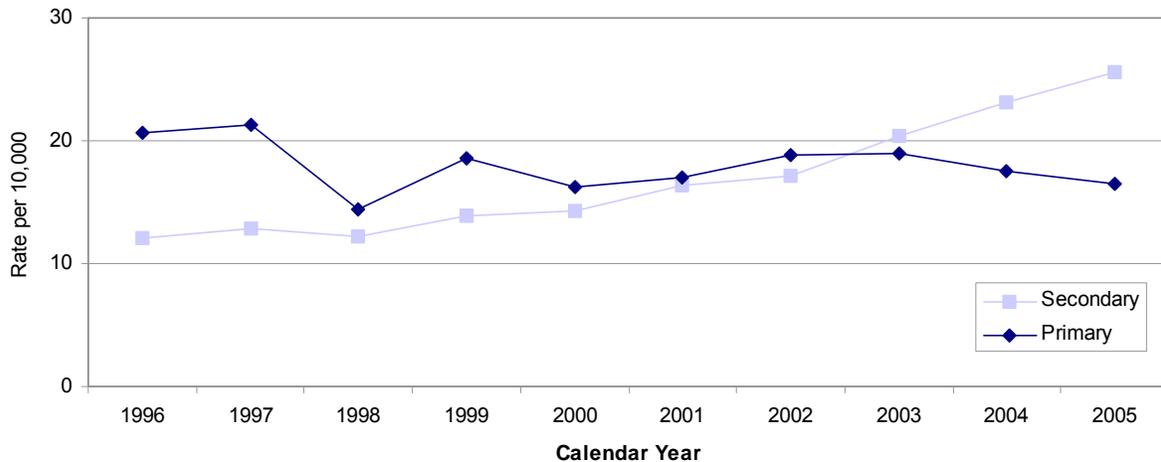
**Asthma Hospital Discharges by Destination (Primary Diagnosis)
Connecticut, 18+ years old, 5-year period (2001 - 2005)**



Between 2001-2005, approximately 90% of adults hospitalized for asthma were discharged to the home, including 13.9% discharged to home with some type of home health service.

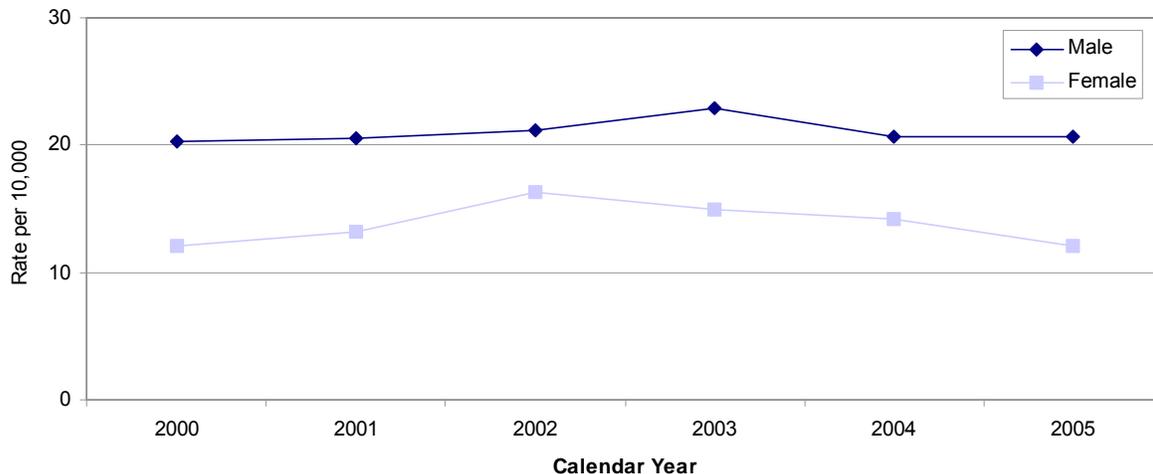
Asthma Hospitalizations among Children

**Asthma Hospitalization Rates by Year and Primary & Secondary Diagnosis
Connecticut, 0 - 17 years old (1996 - 2005)**



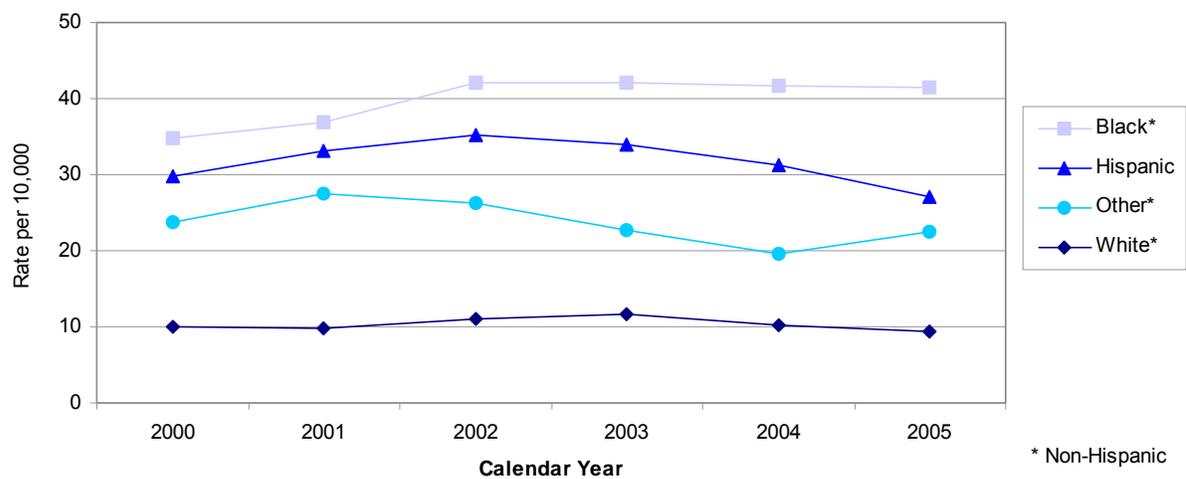
From 1996-2005 among children 0-17 years old, there was an average of 1,500 hospitalizations with a primary diagnosis of asthma and 1,400 hospitalizations with a secondary diagnosis of asthma each year. The hospitalization rate among children with a primary diagnosis of asthma averaged 18.0 hospitalizations per 10,000 from 1996-2005, and has shown a decreasing trend since 2003. However, the hospitalization rate among children with a secondary diagnosis of asthma showed a steady increase, from 12.1 per 10,000 in 1996 to 25.6 per 10,000 in 2005.

**Asthma Hospitalization Rates by Year & Sex (Primary Diagnosis)
Connecticut, 0 - 17 years old (2000 - 2005)**



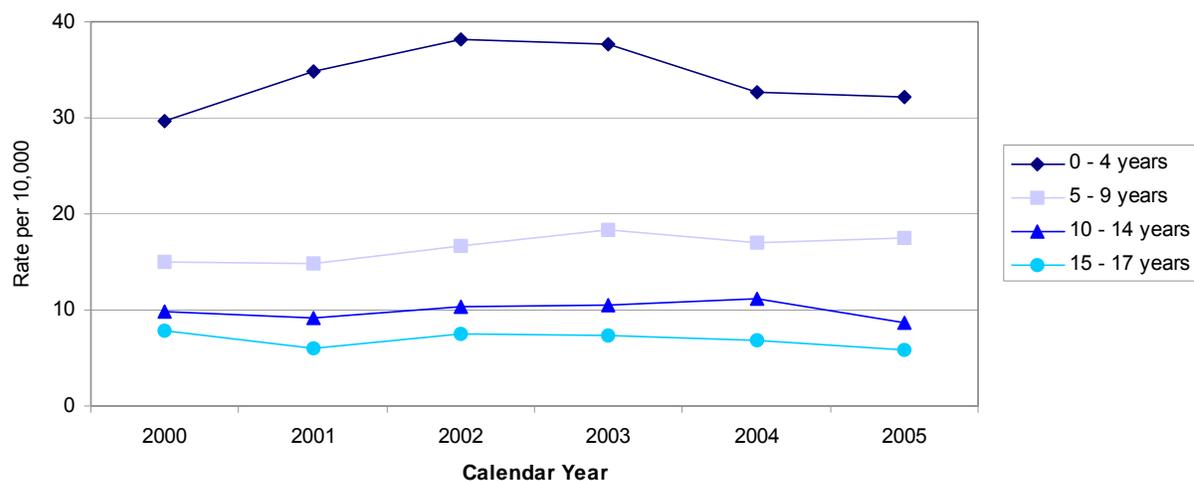
From 2000-2005, the rate of hospitalization with a primary diagnosis of asthma was consistently higher among boys than among girls. Asthma hospitalization rates among boys and girls remained essentially the same in 2005 as they were in 2000. The hospitalization rate among boys peaked at 22.9 per 10,000 in 2003 and decreased 10% to 20.7 per 10,000 in 2005; the rate among girls peaked at 16.3 per 10,000 in 2002 and decreased 26% to 12.1 per 10,000 in 2005.

**Asthma Hospitalization Rates by Year & Race / Ethnicity (Primary Diagnosis)
Connecticut, 0 - 17 years old (2000 - 2005)**



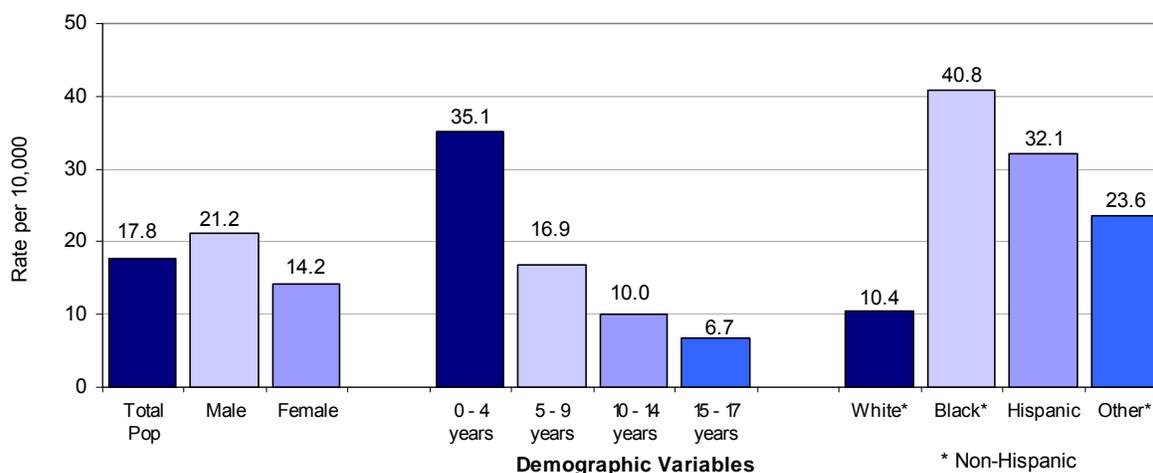
From 2000-2005, the rate of hospitalization among children with a primary diagnosis of asthma was consistently highest among non-Hispanic blacks, followed by Hispanics and non-Hispanic others, and lowest among non-Hispanic whites. The asthma hospitalization rate among non-Hispanic blacks increased 19% from 2000 to 2005, while the rates among Hispanics, non-Hispanic others, and non-Hispanic whites decreased 9%, 7%, and 5%, respectively, during the same time period.

**Asthma Hospitalization Rates by Year & Age Group (Primary Diagnosis)
Connecticut, 0 - 17 years old (2000 - 2005)**



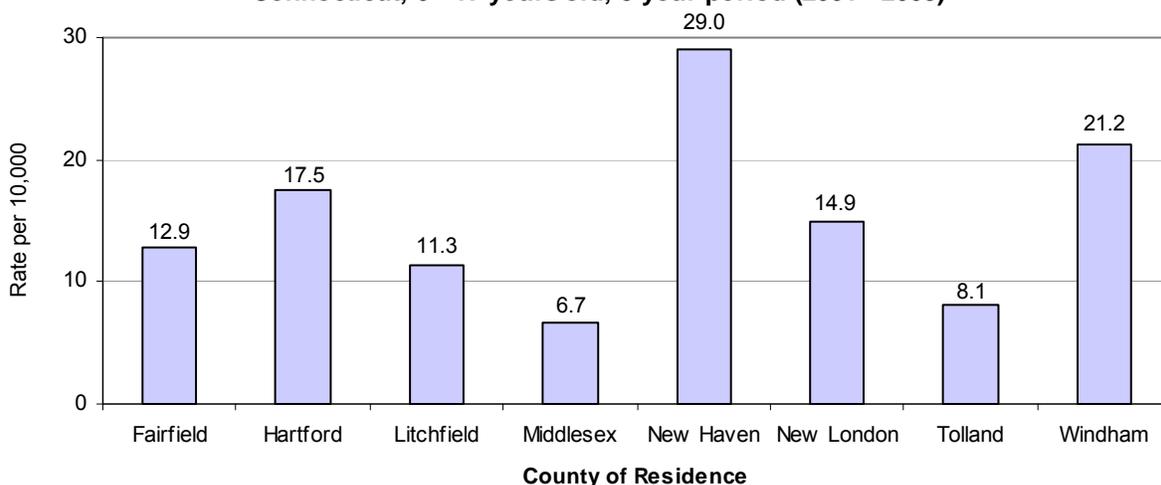
From 2000-2005, the rate of hospitalization among children with a primary diagnosis of asthma was consistently highest among those aged 0-4 years and lowest among those aged 15-17 years, with the rate decreasing as age increased. The asthma hospitalization rates among children aged 0-4 and 5-9 years increased 2% and 8%, respectively, from 2000 to 2005, while the rates among children aged 10-14 and 15-17 years decreased 11% and 15%, respectively, during the same time period.

Asthma Hospitalization Rates by Sex, Age Group & Race / Ethnicity (Primary Diagnosis), Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)



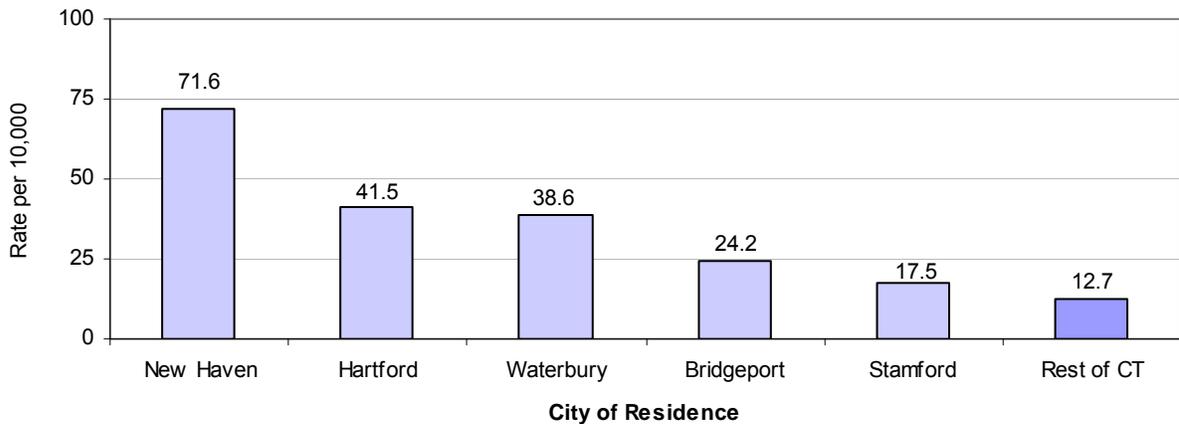
Over the 5-year period between 2001-2005, there was an average of 1,500 hospitalizations (17.8 per 10,000) each year among children with a primary diagnosis of asthma. The asthma hospitalization rate among boys was 1.5 times higher than among girls. The rate among children aged 0-4 years was 5.3 times higher than among children aged 15-17 years, and the rate decreased as age increased. The asthma hospitalization rates among non-Hispanic black, Hispanic, and non-Hispanic other children were 3.9, 3.1, and 2.3 times higher, respectively, than among non-Hispanic white children.

Asthma Hospitalization Rates by County of Residence (Primary Diagnosis) Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)



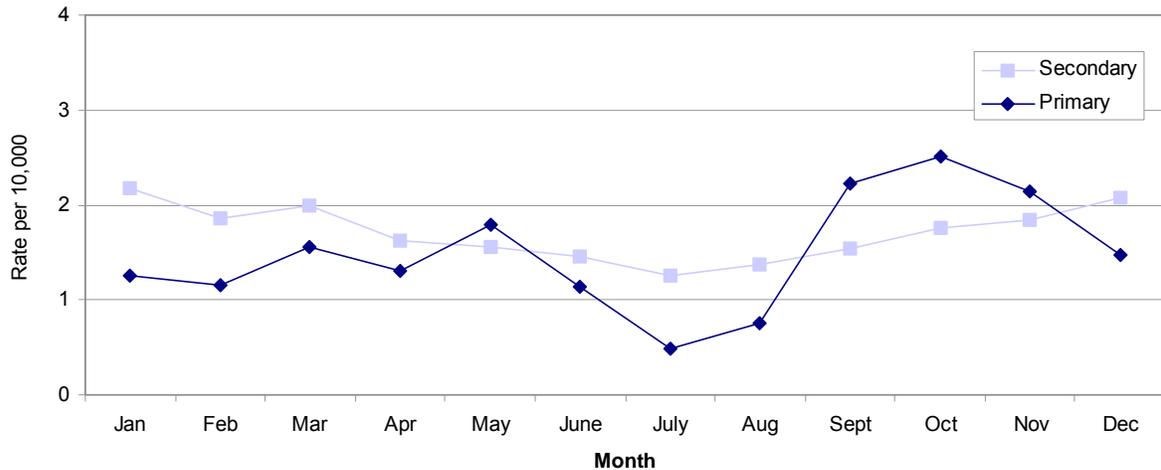
Between 2001-2005, the rate of hospitalization among children with a primary diagnosis of asthma was highest in New Haven county (29.0 per 10,000), followed by Windham (21.2), Hartford (17.5), and New London (14.9) counties. It should be noted that the highest number of asthma hospitalizations took place among children from New Haven county (580 each year), followed by Hartford (370) and Fairfield (300) counties.

Asthma Hospitalization Rates by 5 Largest Cities vs. Rest of CT (Primary Diagnosis), Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)



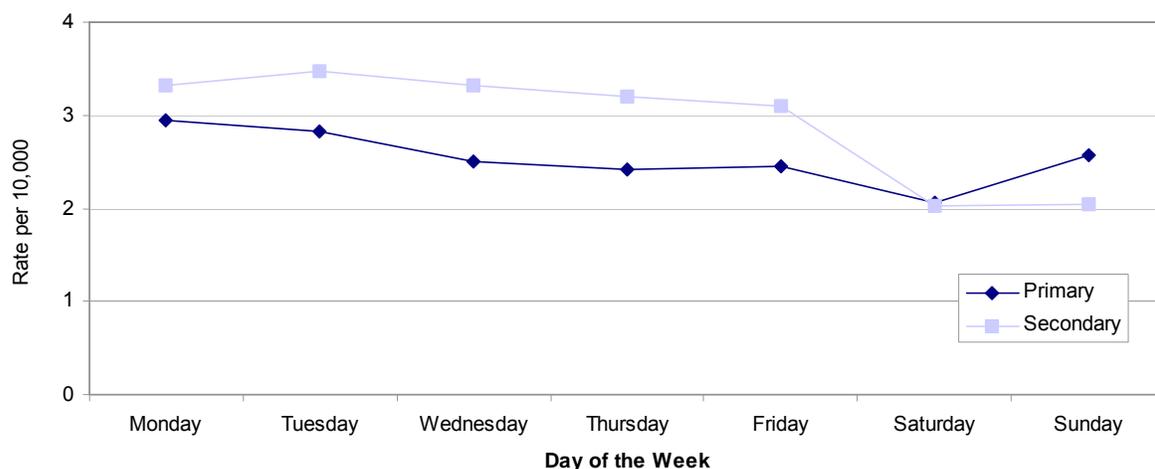
Between 2001-2005, the five largest cities accounted for 42.1% of all asthma hospitalizations among children in Connecticut, with a combined rate of 38.7 per 10,000, as compared to 12.7 per 10,000 for the rest of the state. The 10 towns with the highest child asthma hospitalization rates were New Haven (71.6 per 10,000), Windham (65.4), West Haven (43.4), Hartford (41.5), Waterbury (38.6), New Britain (37.9), East Haven (34.2), Bozrah (32.5), Hamden (30.6), and Sprague (28.5). A breakdown of child asthma hospitalization rates by town can be found in Appendix 4.

Asthma Hospitalization Rates by Month and Primary & Secondary Diagnosis Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)



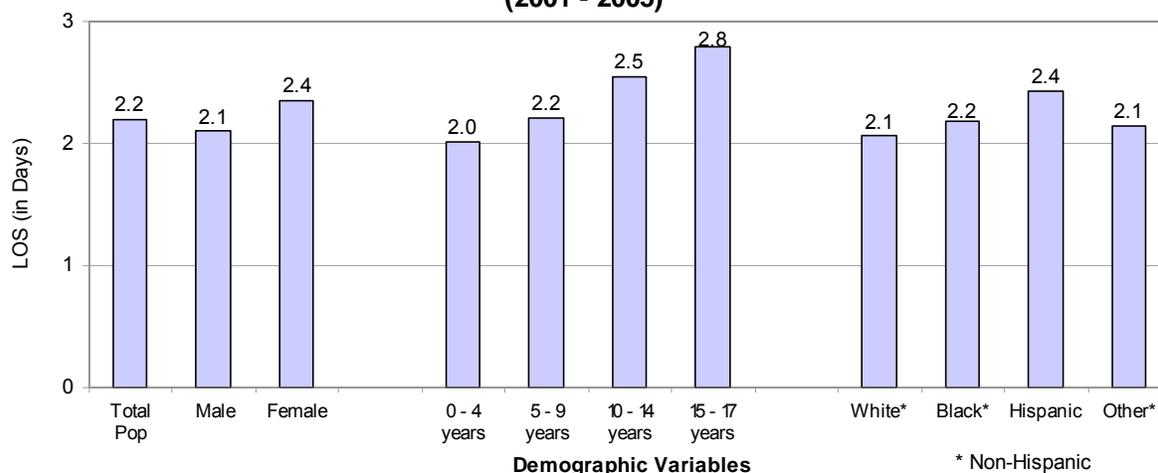
Between 2001-2005, hospitalizations among children with a primary diagnosis of asthma showed a seasonal pattern with the highest rates occurring in late fall (September to November). The lowest rates were seen during the summer (June to August). Hospitalizations with a secondary diagnosis of asthma showed a similar pattern, with the highest rates occurring in late fall and winter (October to March) and the lowest rates during the summer (June to August).

Asthma Hospitalization Rates by Day of the Week and Primary & Secondary Diagnosis, Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)



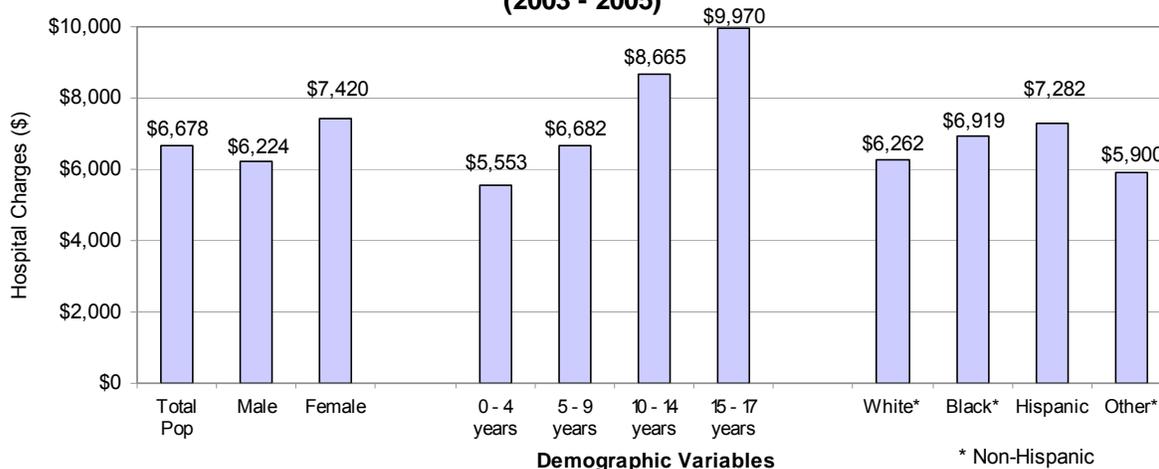
Between 2001-2005, hospitalizations among children with either a primary or secondary diagnosis of asthma generally showed the highest rates at the beginning of the week and gradually decreased into the weekend.

Mean Length of Stay for Asthma Hospitalizations by Sex, Age Group & Race / Ethnicity (Primary Diagnosis), Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)



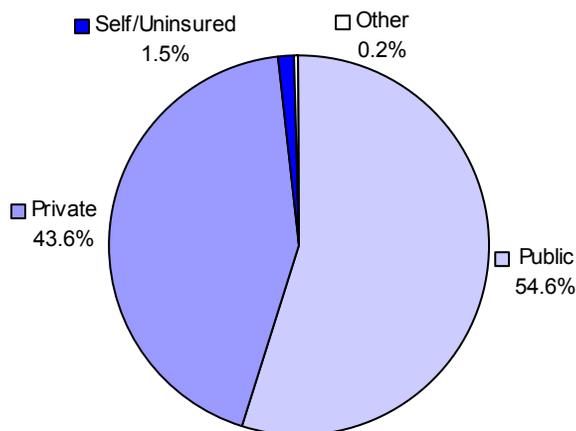
Between 2001-2005, the mean length of stay per hospitalization among children with a primary diagnosis of asthma was 2.2 days. The length of stay was longer among girls than among boys; increased as age increased; and was longest among Hispanic children, followed by non-Hispanic black, non-Hispanic white, and non-Hispanic other children.

Mean Charges for Asthma Hospitalizations by Sex, Age Group & Race / Ethnicity Connecticut (Primary Diagnosis), 0 - 17 years old, 3-year period (2003 - 2005)



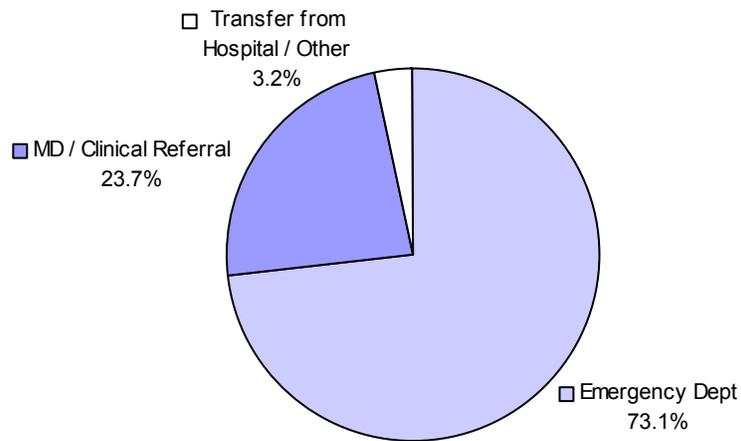
Between 2003-2005, the mean charge per hospitalization for children with a primary diagnosis of asthma was \$6,678, which translates into a total charge of \$9,877,000 per year. The mean hospital charge was higher among girls than among boys; increased as age increased; and was highest among Hispanic children, followed by non-Hispanic black, non-Hispanic white, and non-Hispanic other children.

Asthma Hospitalizations by Source of Payment (Primary Diagnosis) Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)



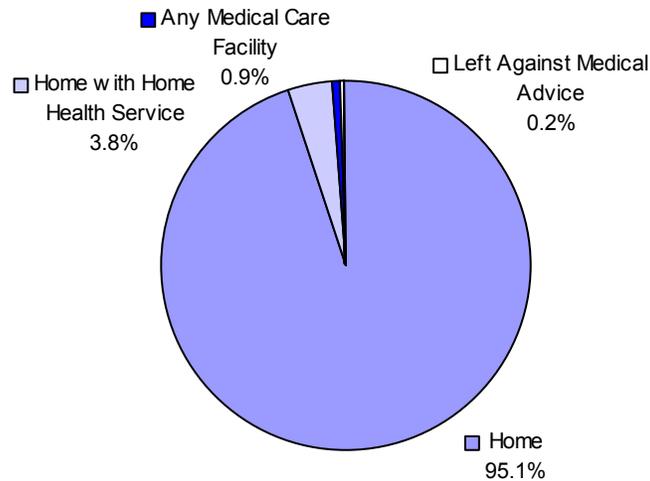
Between 2001-2005, over one-half (54.6%) of all asthma hospitalization charges among children were paid from public funds (i.e., Medicaid). Private insurance (43.6%) was the second leading source of payment for asthma hospitalization charges.

**Asthma Hospitalizations by Source of Admission (Primary Diagnosis)
Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)**



Between 2001-2005, the majority of asthma hospitalizations among children were admitted from the emergency department (73.1%). Physician referral (23.7%) was the second highest source of hospital admissions.

**Asthma Hospital Discharges by Destination (Primary Diagnosis)
Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)**



Between 2001-2005, nearly every child (98.9%) hospitalized for asthma was discharged to the home, including 3.8% discharged to home with some type of home health service.

ASTHMA EMERGENCY DEPARTMENT (ED) VISITS

Asthma emergency department (ED) visits, like asthma hospitalizations, are often preventable for people who manage their asthma properly and receive appropriate health care. However, each year many patients seek care at the ED for their asthma symptoms.

Data on ED visits for asthma are available from ChimeData Program, part of Chime, an affiliate of the Connecticut Hospital Association (CHA). The ChimeData Program maintains a proprietary healthcare information system which incorporates statewide clinical, financial, patient demographic, and provider information. Data are submitted voluntarily to Chime by each participating organization. Chime began in 1980 with the collection of inpatient data from Connecticut's acute care hospitals. In 1984, Chime began collecting associated financial information. The scope of the Chime database expanded again in 1988 to include hospital-based ambulatory surgery information. In 1990, Chime added ambulatory medical records information to its Chime database, and began collecting emergency department data in 1995. Each year the data quality edits are enhanced to ensure accuracy, reasonability and completeness.

Connecticut Department of Public Health (CT DPH) purchases ChimeData from CHA on an annual basis. The data received by CT DPH account for ED visits at 29 out of 31 acute care hospitals in Connecticut. Although these data do not represent all persons with asthma, they provide a picture of those people with the most severe or poorly controlled asthma, and those who may not have appropriate access to preventive care.

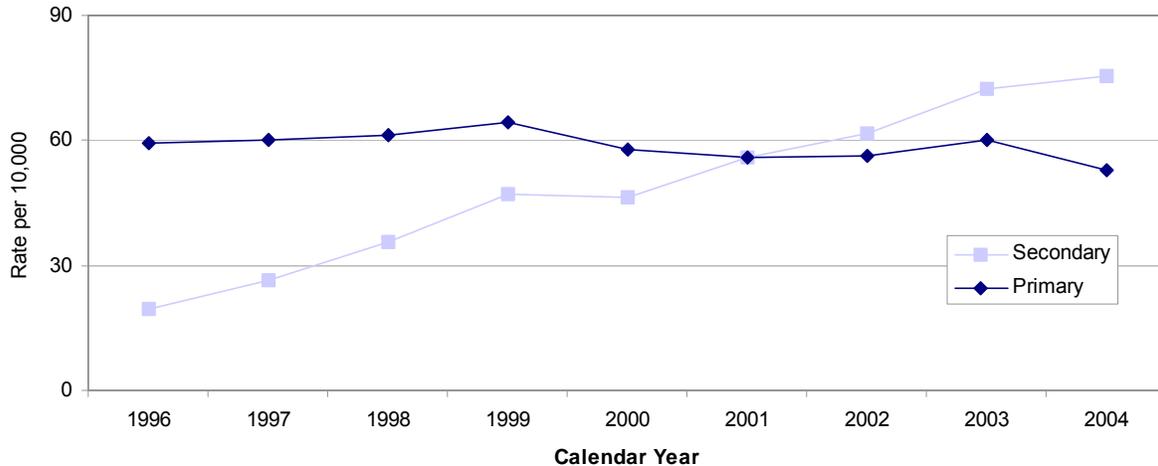
Asthma ED visits are an important surveillance tool used to identify populations where prevention efforts can best be directed. Individuals who visit the ED because of asthma represent a group that should be targeted for programs aimed at improving asthma management.

Data are presented for all Connecticut residents who visited the ED with a diagnosis of asthma from 1996 to 2004. The data is based upon number of visits to the ED and not number of unique individuals who visited the ED. This section of the report examines asthma ED visits for adults and children separately. When examining asthma ED visit trends over time, annual rates are presented from 1996 for the overall population, and from 2000 for rates by sex, race/ethnicity, and age. To gain an understanding of the current status of asthma ED visits, data from the most recent 5-year period (2000-2004) were aggregated for examination and comparison.

Unless otherwise stated, the information presented is for ED visits with asthma coded as the primary diagnosis. Some limited information is provided about ED visits for patients with asthma listed as a secondary diagnosis. For the purposes of this report, an asthma diagnosis was defined as ICD-9-CM codes 493.0-493.9. Detailed tables of the results, including ED visit rates by town, can be found in Appendices 5 and 6, respectively.

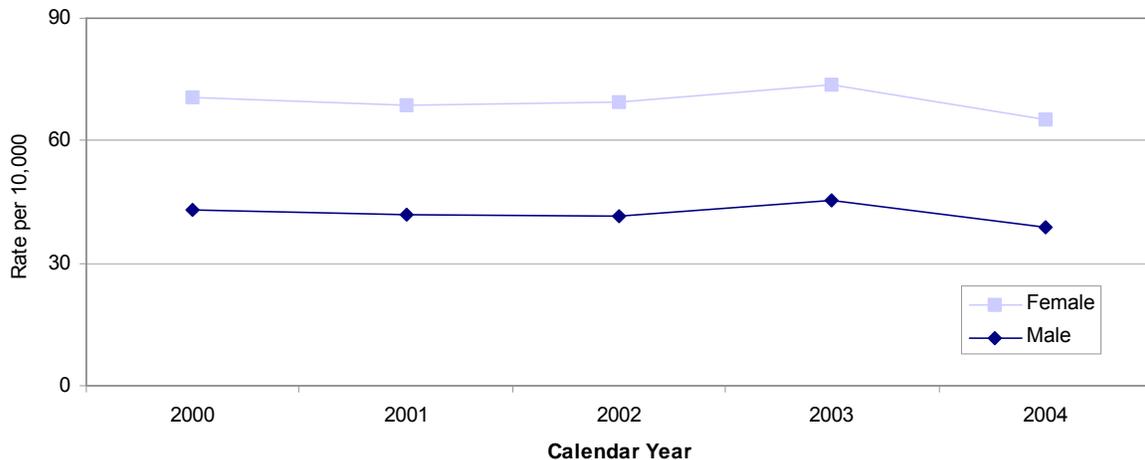
Asthma ED Visits among Adults

**Asthma ED Visit Rates by Year and Primary & Secondary Diagnosis
Connecticut, 18+ years old (1996 - 2004)**



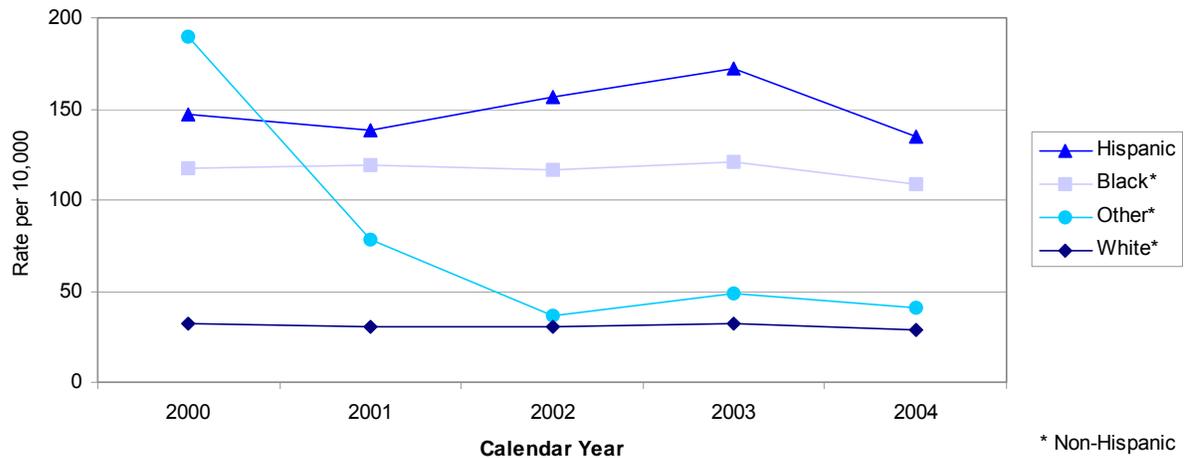
From 1996-2004 among adults 18 years of age and older, there was an average of 14,900 ED visits with a primary diagnosis of asthma and 12,600 ED visits with a secondary diagnosis of asthma each year. The ED visit rate among adults with a primary diagnosis of asthma remained relatively stable from 1996-2004 with an average of 58.5 ED visits per 10,000. However, the ED visit rate among adults with asthma as a secondary diagnosis showed a steady increase, from 19.4 per 10,000 in 1996 to 75.6 per 10,000 in 2004.

**Asthma ED Visit Rates by Year & Sex (Primary Diagnosis)
Connecticut, 18+ years old (2000 - 2004)**



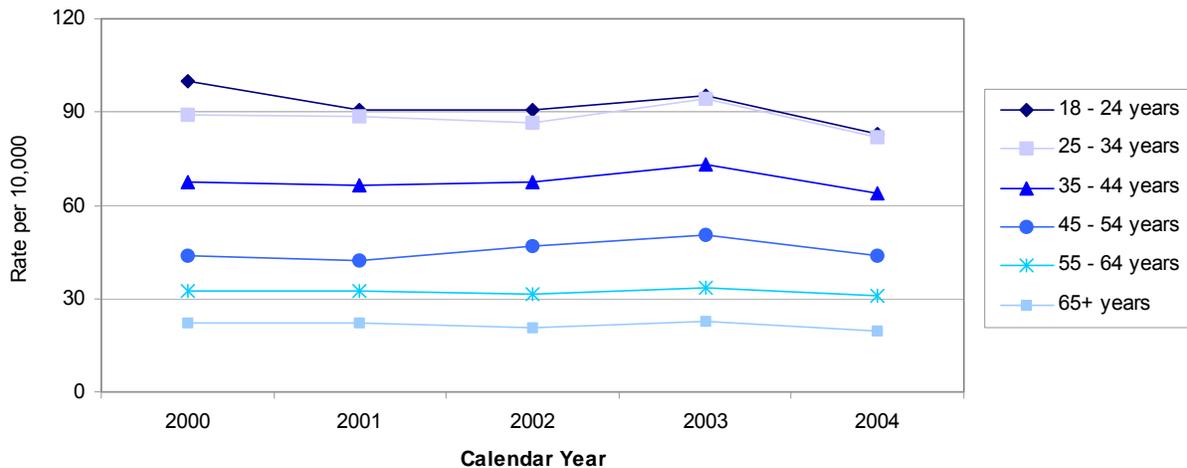
From 2000-2004, the rate of ED visits with a primary diagnosis of asthma was consistently higher among women than among men. The asthma ED visit rate among women decreased 8% from 70.8 per 10,000 in 2000 to 65.3 per 10,000 in 2004; the rate among men decreased 10% from 43.2 per 10,000 in 2000 to 38.9 per 10,000 in 2004.

**Asthma ED Visit Rates by Year & Race / Ethnicity (Primary Diagnosis)
Connecticut, 18+ years old (2000 - 2004)**



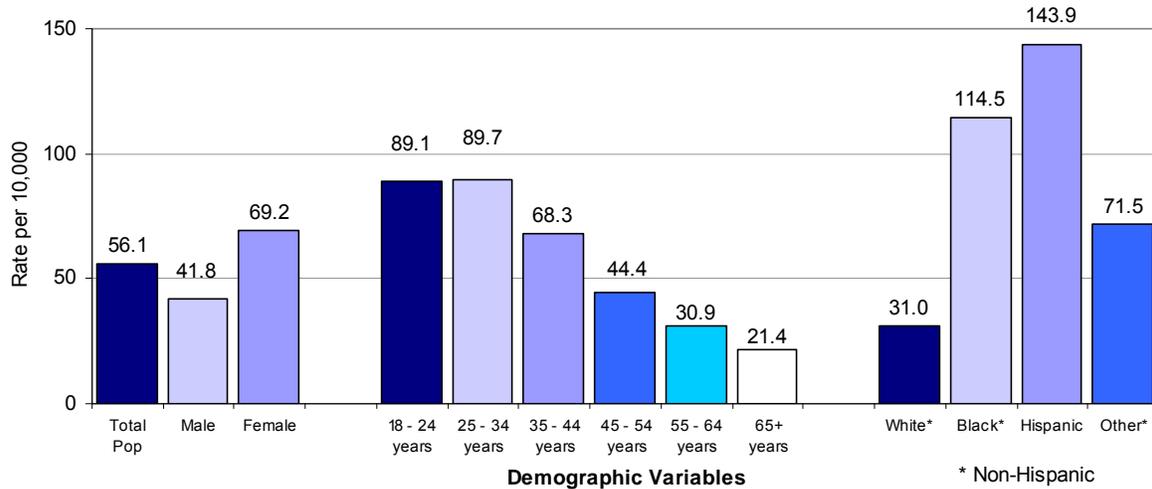
From 2000-2004, the rate of ED visits among adults with a primary diagnosis of asthma was higher among Hispanics and non-Hispanic blacks than among non-Hispanic whites and non-Hispanic others. The asthma ED visit rates among Hispanics decreased 8% from 2000 to 2004, and the rates among non-Hispanic blacks and non-Hispanics whites decreased 7% and 11%, respectively, during the same time period.

**Asthma ED Visit Rates by Year & Age Group (Primary Diagnosis)
Connecticut, 18+ years old (2000 - 2004)**



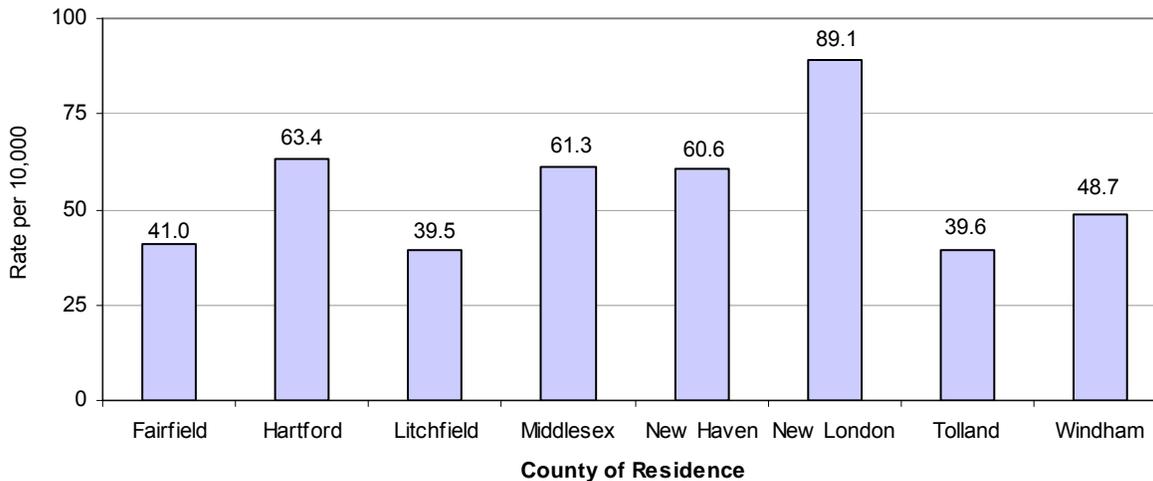
From 2000-2004, the rate of ED visits among adults with a primary diagnosis of asthma was consistently highest among those aged 18-24 years, and the rate decreased as age increased. The asthma ED visit rates among adults aged 18-24, 25-34, 35-44, 55-64, and 65 years and over decreased 17%, 8%, 5%, 4%, and 11%, respectively, from 2000 to 2004, while the rates among adults aged 45-54 years increased 1% during the same time period.

Asthma ED Visit Rates by Sex, Age Group & Race / Ethnicity (Primary Diagnosis), Connecticut, 18+ years old, 5-year period (2000 - 2004)



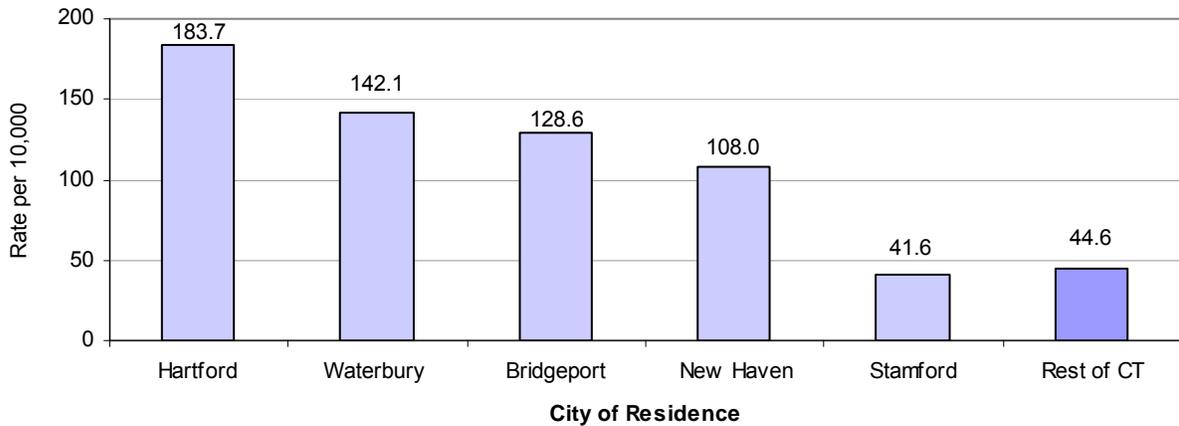
Over the 5-year period between 2000-2004, there was an average of 14,800 ED visits (56.1 per 10,000) each year among adults with a primary diagnosis of asthma. The asthma ED visit rate among women was 1.7 times higher than among men. The rate among adults aged 18-34 years was 4.2 times higher than among adults aged 65 years and over, and the rate decreased as age increased. The asthma ED visit rates among Hispanic, non-Hispanic black, and non-Hispanic other adults were over 4.6, 3.7, and 2.3 times higher than among non-Hispanic white adults.

Asthma ED Visit Rates by County of Residence (Primary Diagnosis) Connecticut, 18+ years old, 5-year period (2000 - 2004)



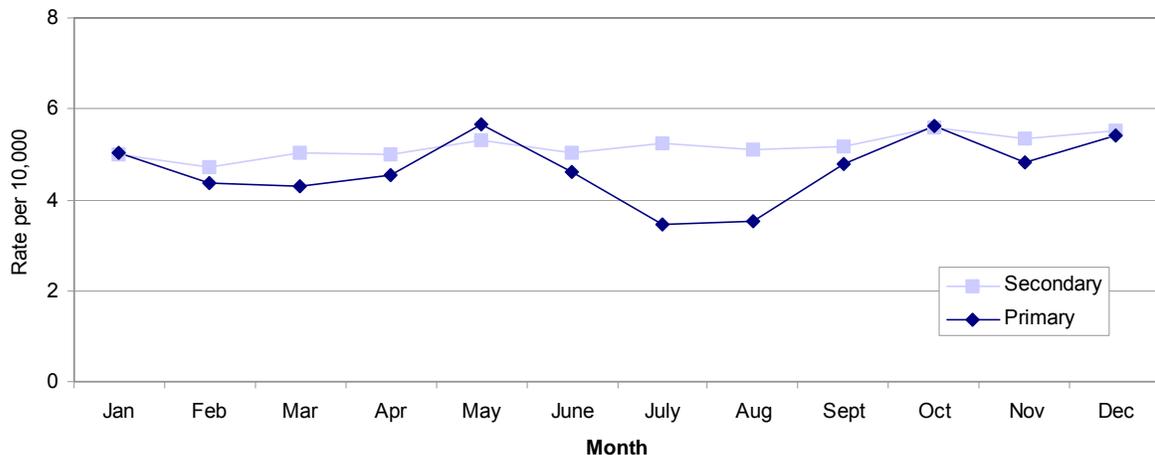
Between 2000-2004, the rate of ED visits among adults with a primary diagnosis of asthma was highest in New London county (89.1 per 10,000), followed by Hartford (63.4), Middlesex (61.3), and New Haven (60.6) counties. It should be noted that the highest number of asthma ED visits took place among adults from Hartford county (4,200 each year), followed by New Haven (3,900), and Fairfield (2,700) counties.

**Asthma ED Visit Rates by 5 Largest Cities vs. Rest of CT (Primary Diagnosis)
Connecticut, 18+ years old, 5-year period (2000 - 2004)**



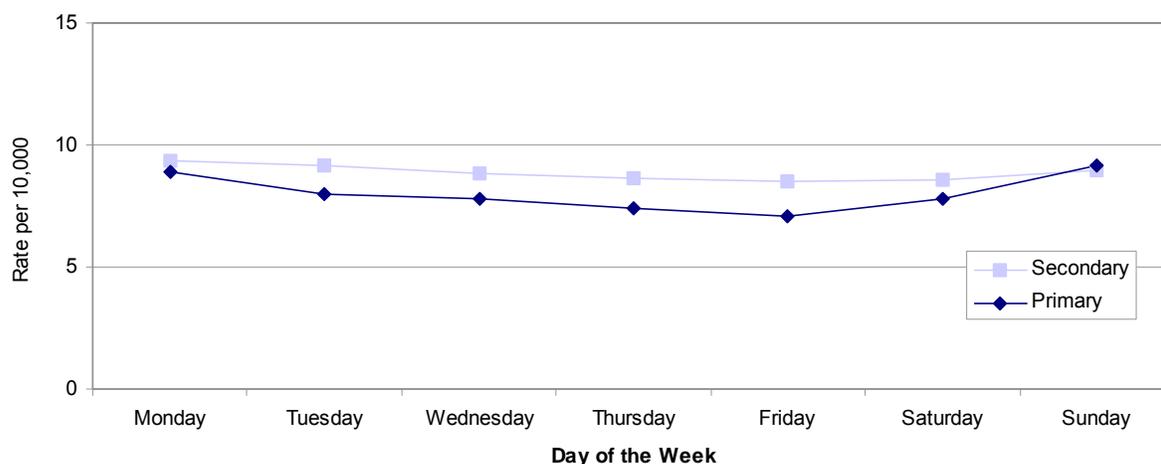
Between 2000-2004, the five largest cities accounted for 36.1% of all asthma ED visits among adults in Connecticut, with a combined rate of 119.5 per 10,000, as compared to 44.6 per 10,000 for the rest of the state. The 10 towns with the highest adult asthma ED visit rates were New London (189.7 per 10,000), Hartford (183.7), Waterbury (142.1), Groton (141.0), Bridgeport (128.6), Ansonia (118.5), East Hampton (111.1), New Britain (110.9), Colchester (108.9), and New Haven (108.0). A breakdown of adult asthma ED visit rates by town can be found in Appendix 6.

**Asthma ED Visit Rates by Month and Primary & Secondary Diagnosis
Connecticut, 18+ years old, 5-year period (2000 - 2004)**



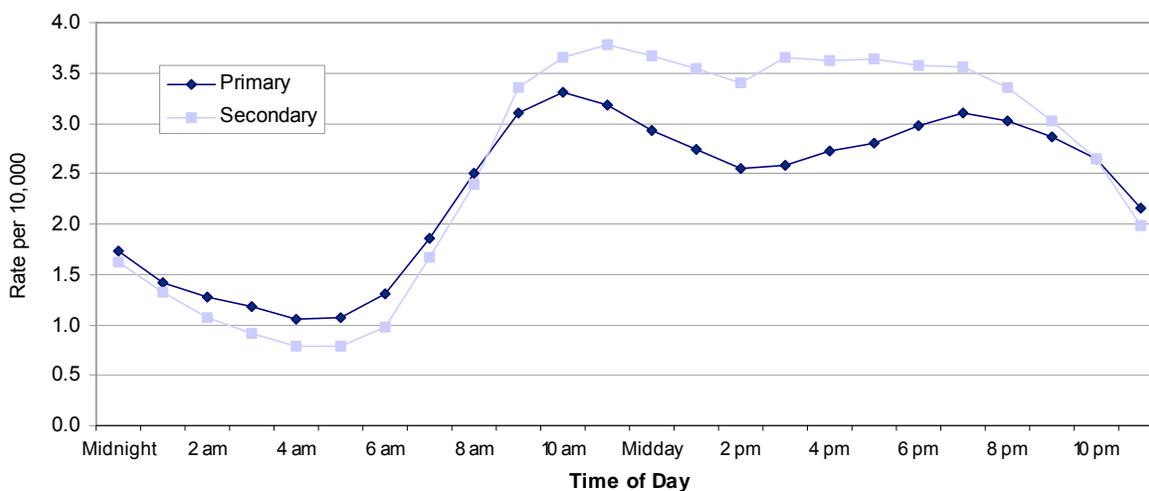
Between 2000-2004, ED visits among adults with a primary diagnosis of asthma showed a seasonal pattern with the highest rates occurring in the months of May and October. The lowest rates were seen during the summer (July and August). There was no apparent seasonal pattern for ED visits with a secondary diagnosis of asthma.

Asthma ED Visit Rates by Day of the Week and Primary & Secondary Diagnosis Connecticut, 18+ years old, 5-year period (2000 - 2004)



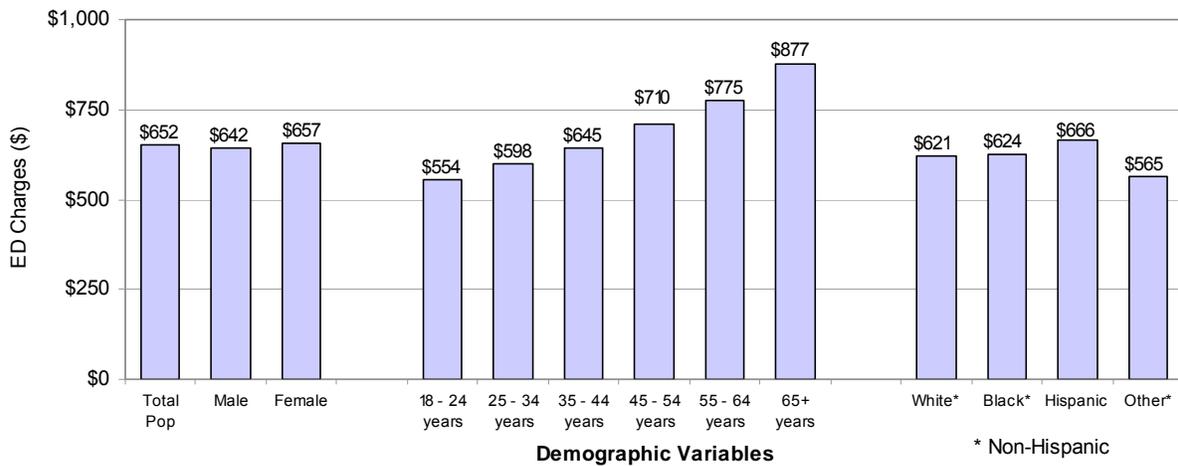
Between 2000-2004, ED visits among adults with a primary diagnosis of asthma decreased slightly with each elapsing day during the weekdays and increased during the weekend. There was no apparent day of week pattern for ED visits with a secondary diagnosis of asthma.

Asthma ED Visit Rates by Time of Day and Primary & Secondary Diagnosis Connecticut, 18+ years old, 5-year period (2000 - 2004)



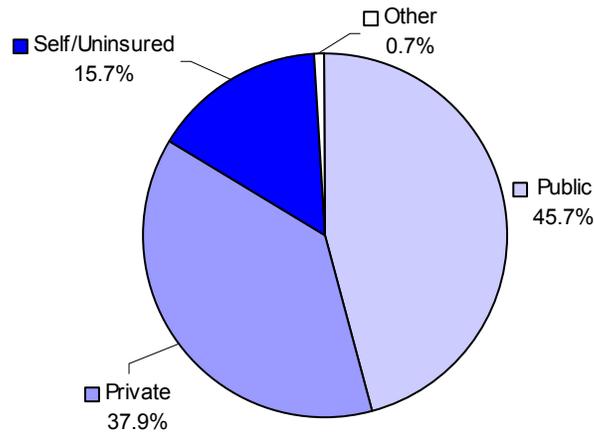
Between 2000-2004, ED visits among adults with a primary diagnosis of asthma were highest during late morning (9am to mid-day) and early evening (6pm to 9pm). ED visits among adults with a secondary diagnosis of asthma remained high during the day (9am to 9pm).

**Mean Charges for Asthma ED Visits by Sex, Age Group & Race / Ethnicity
(Primary Diagnosis), Connecticut, 18+ years old, 5-year period (2000 - 2004)**



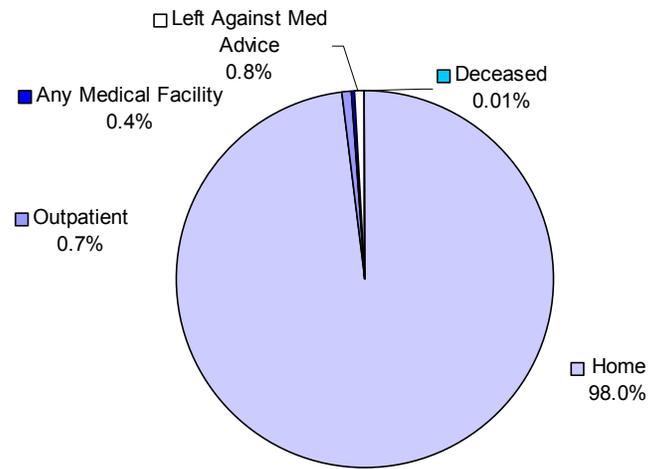
Between 2000-2004, the mean charge per ED visit for adults with a primary diagnosis of asthma was \$652, which translates into a total charge of \$9,633,000 per year. The mean ED visit charge did not differ by sex; increased as age increased; and was slightly higher among Hispanic adults than non-Hispanic black, non-Hispanic white, and non-Hispanic other adults.

**Asthma ED Visits by Source of Payment (Primary Diagnosis)
Connecticut, 18+ years old, 4-year period (2001 - 2004)**



Between 2001-2004, nearly half (45.7%) of all asthma ED visit charges among adults were paid from public funds (i.e., Medicaid or Medicare). Private insurance (37.9%) was the second leading source of payment for asthma ED visit charges.

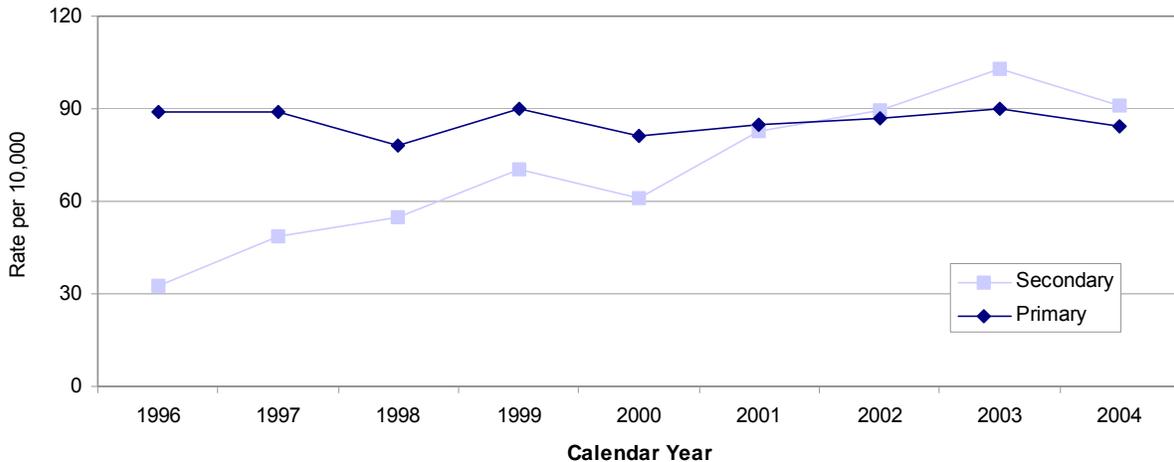
**Asthma ED Discharges by Destination (Primary Diagnosis)
Connecticut, 18+ years old, 5-year period (2000 - 2004)**



Between 2000-2004, the vast majority (98.0%) of adults who went to the ED for their asthma were discharged to the home.

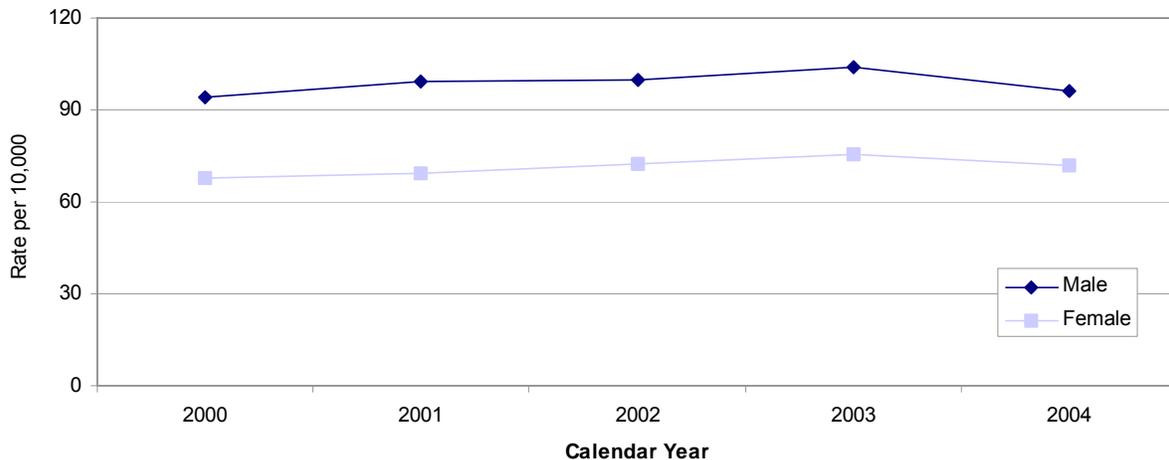
Asthma ED Visits among Children

**Asthma ED Visit Rates by Year and Primary & Secondary Diagnosis
Connecticut, 0 - 17 years old (1996 - 2004)**



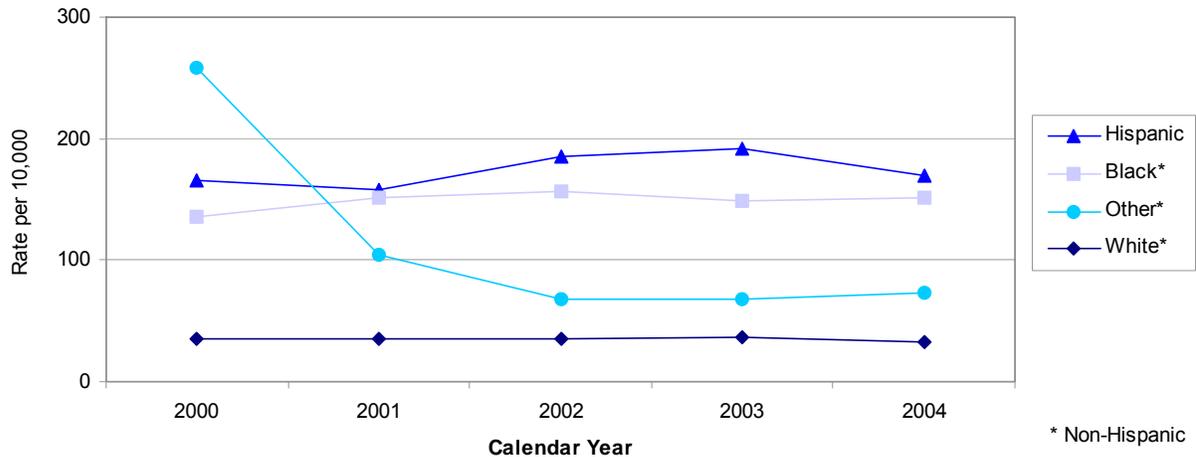
From 1996-2004 among children 0-17 years old, there was an average of 7,100 ED visits with a primary diagnosis of asthma and 5,800 ED visits with a secondary diagnosis of asthma each year. The ED visit rate among children with a primary diagnosis of asthma remained approximately the same from 1996-2004, averaging 85.9 visits per 10,000. However, the ED visit rate among children with a secondary diagnosis of asthma showed a steady increase, from 32.5 per 10,000 in 1996 to 91.1 per 10,000 in 2004.

**Asthma ED Visit Rates by Year & Sex (Primary Diagnosis)
Connecticut, 0 - 17 years old (2000 - 2004)**



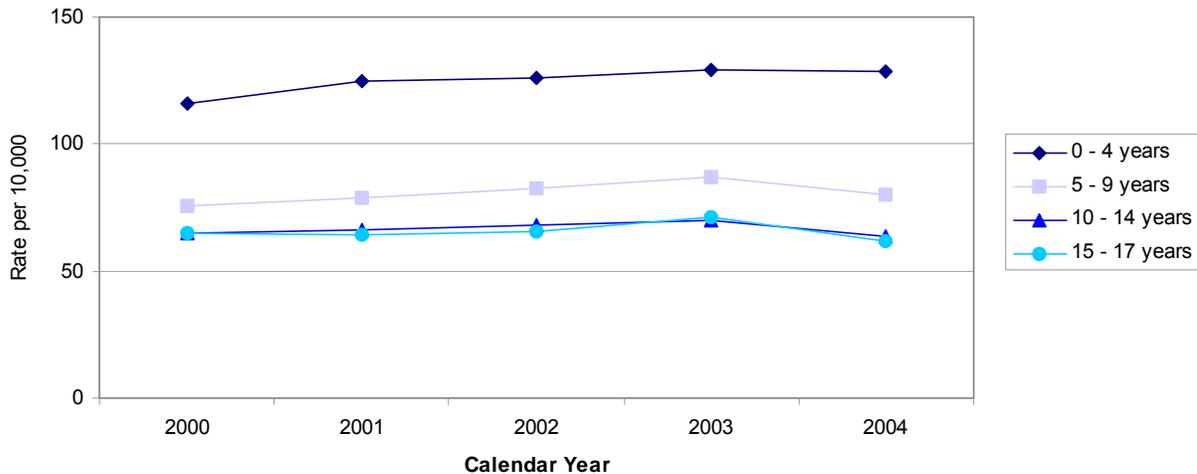
From 2000-2004, the rate of ED visits with a primary diagnosis of asthma was consistently higher among boys than among girls. The asthma ED visit rates among boys and girls remained approximately the same in 2004 as they were in 2000. The ED visit rate among boys peaked at 103.8 per 10,000 in 2003 and decreased 7% to 96.0 per 10,000 in 2004; the rate among girls peaked at 75.5 per 10,000 in 2003 and decreased 5% to 71.9 per 10,000 in 2004.

**Asthma ED Visit Rates by Year & Race / Ethnicity (Primary Diagnosis)
Connecticut, 0 - 17 years old (2000 - 2004)**



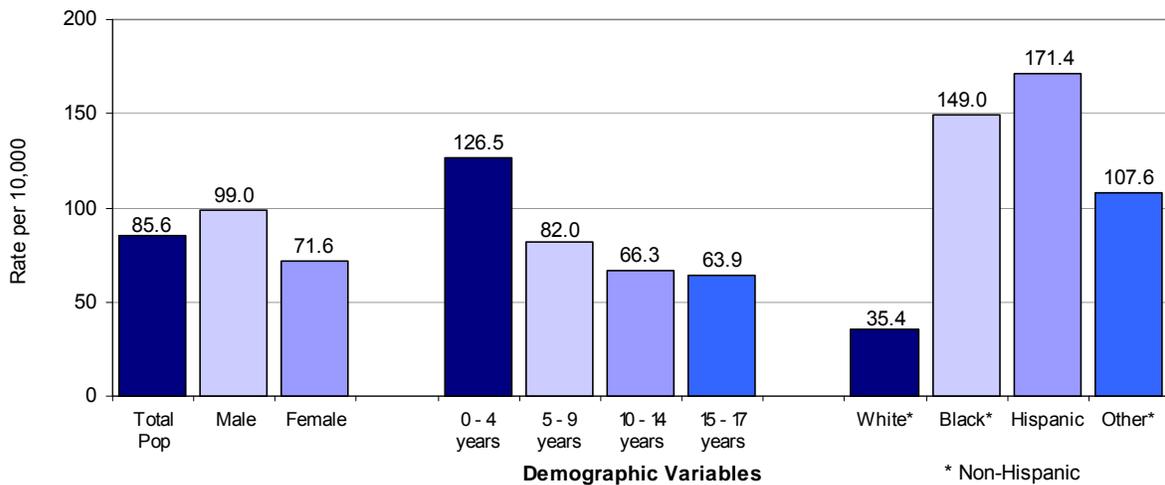
From 2000-2004, the rate of ED visits among children with a primary diagnosis of asthma was higher among Hispanics and non-Hispanic blacks than among non-Hispanic whites and non-Hispanic others. The asthma ED visit rates among Hispanics and non-Hispanic blacks increased 2% and 12%, respectively, from 2000 to 2004, while the rate among non-Hispanic whites decreased 8% during the same time period.

**Asthma ED Visit Rates by Year & Age Group (Primary Diagnosis)
Connecticut, 0 - 17 years old (2000 - 2004)**



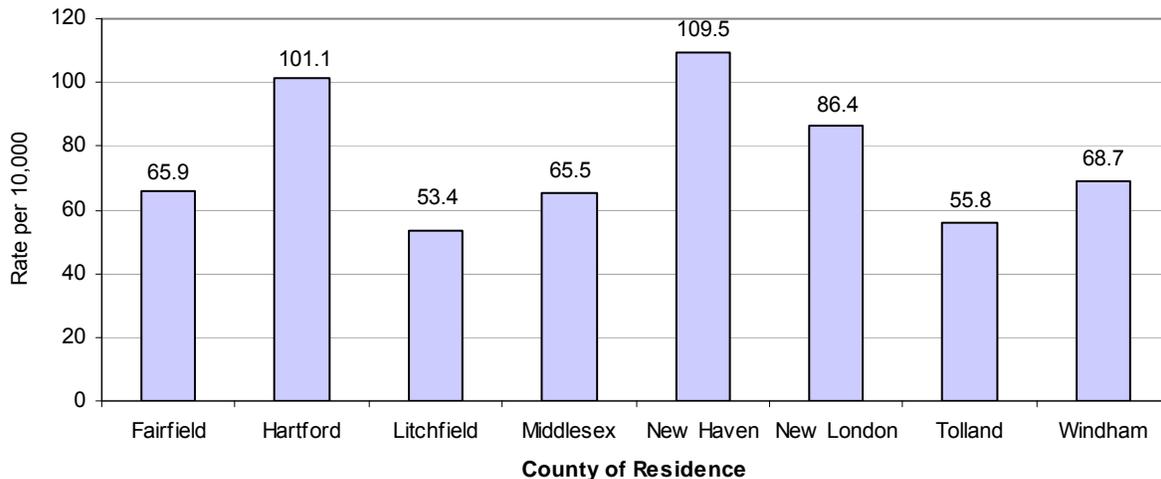
From 2000-2004, the rate of ED visits among children with a primary diagnosis of asthma was consistently highest among those aged 0-4 years, and the rate decreased as age increased. The asthma ED visit rates among children aged 0-4 and 5-9 years increased 11% and 6%, respectively, from 2000 to 2004, while the rates among children aged 10-14 and 15-17 years decreased 3% and 5%, respectively, during the same time period.

Asthma ED Visit Rates by Sex, Age Group & Race / Ethnicity (Primary Diagnosis), Connecticut, 0 - 17 years old, 5-year period (2000 - 2004)



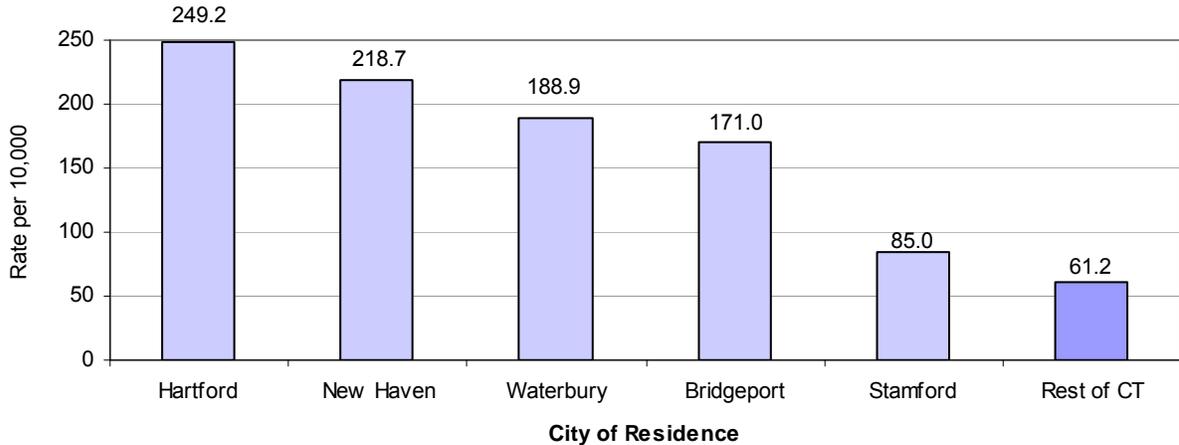
Over the 5-year period between 2000-2004, there was an average of 7,200 ED visits (85.6 per 10,000) each year among children with a primary diagnosis of asthma. The asthma ED visit rate among boys was 1.4 times higher than among girls. The rate among children aged 0-4 years was 2 times higher than among children aged 15-17 years, and the rate decreased as age increased. The asthma ED visit rates among Hispanic, non-Hispanic black, and non-Hispanic other children were 4.8, 4.2, and 3.0 times higher, respectively, than among non-Hispanic white children.

Asthma ED Visit Rates by County of Residence (Primary Diagnosis) Connecticut, 0 - 17 years old, 5-year period (2000 - 2004)



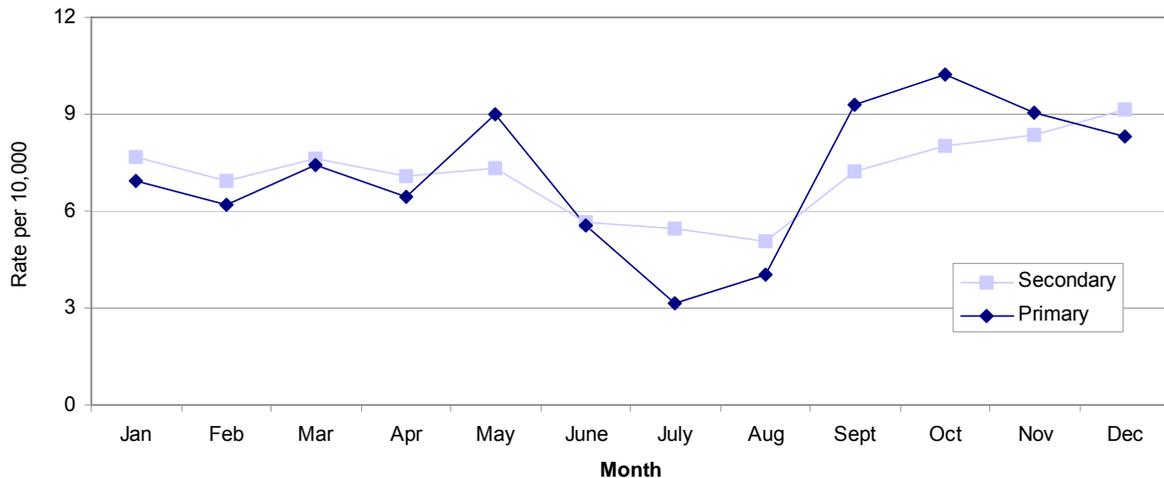
Between 2000-2004, the rate of ED visits among children with a primary diagnosis of asthma was highest in New Haven county (109.5 per 10,000), followed by Hartford (101.1), New London (86.4), and Windham (68.7) counties. It should be noted that the highest number of asthma ED visits took place among children from New Haven county (2,200 each year), followed by Hartford (2,100) and Fairfield (1,500) counties.

**Asthma ED Visit Rates by 5 Largest Cities vs. Rest of CT (Primary Diagnosis)
Connecticut, 0 - 17 years old, 5-year period (2000 - 2004)**



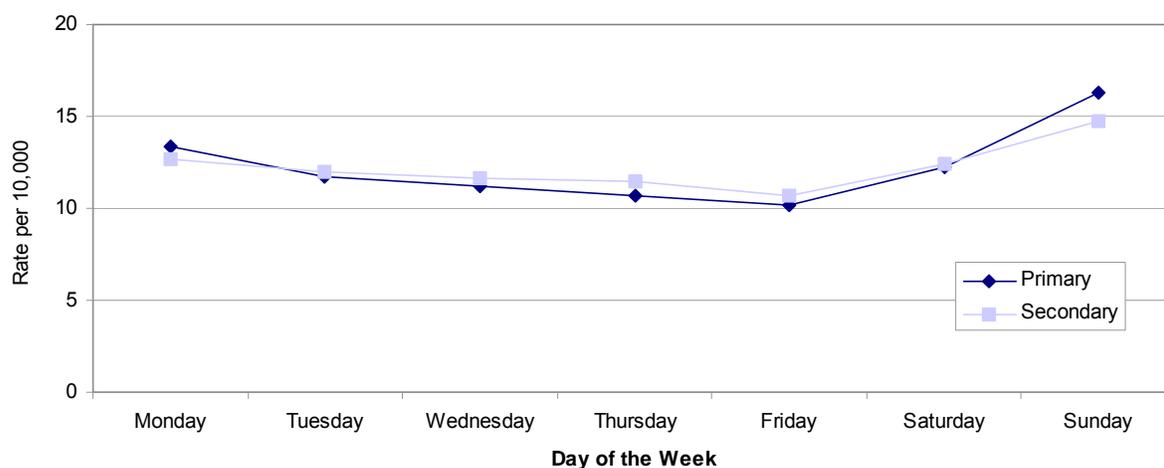
Between 2000-2004, the five largest cities accounted for 42.2% of all asthma ED visits among children in Connecticut, with a combined rate of 187.3 per 10,000, as compared to 61.2 per 10,000 for the rest of the state. The 10 towns with the highest child asthma ED visit rates were Hartford (249.2 per 10,000), New Haven (218.7), New London (203.9), Waterbury (188.9), Meriden (177.2), Bridgeport (171.0), New Britain (144.0), Ansonia (139.5), Bristol (131.4), and East Hartford (127.1). A breakdown of child asthma ED visit rates by town can be found in Appendix 6.

**Asthma ED Visit Rates by Month and Primary & Secondary Diagnosis
Connecticut, 0 - 17 years old, 5-year period (2000 - 2004)**



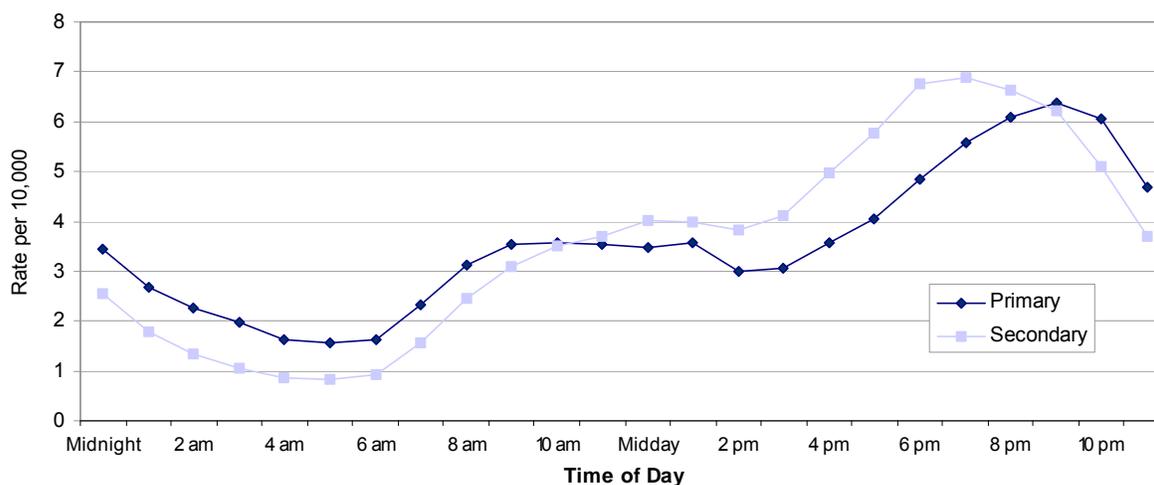
Between 2000-2004, ED visits among children with a primary diagnosis of asthma showed a seasonal pattern with the highest rates occurring in late fall (September to November) with another peak in May. The lowest rates were seen during the summer (June to August). ED visits with a secondary diagnosis of asthma showed a similar pattern, with the highest rates occurring in late fall and winter (October to December) and lowest rates during the summer (June to August).

Asthma ED Visit Rates by Day of the Week and Primary & Secondary Diagnosis Connecticut, 0 - 17 years old, 5-year period (2000 - 2004)



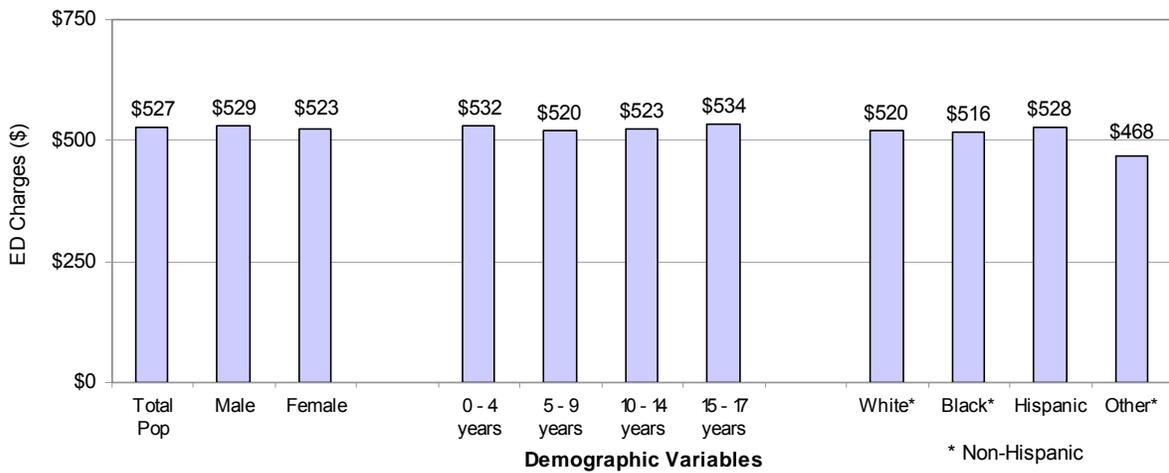
Between 2000-2004, ED visits among children with either a primary or secondary diagnosis of asthma decreased slightly with each elapsing weekday and increased over the weekend.

Asthma ED Visit Rates by Time of Day and Primary & Secondary Diagnosis Connecticut, 0 - 17 years old, 5-year period (2000 - 2004)



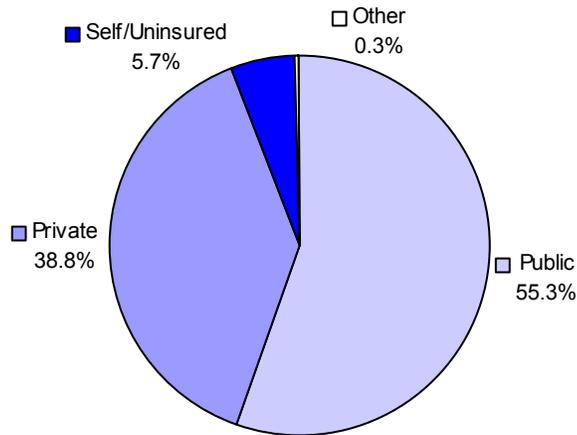
Between 2000-2004, ED visits among children with either a primary or secondary diagnosis of asthma showed a steady increase throughout the afternoon, peaking in the evening (7pm to 9pm).

**Mean Charges for Asthma ED Visits by Sex, Age Group & Race / Ethnicity
(Primary Diagnosis), Connecticut, 0 - 17 years old, 5-year period (2000 - 2004)**



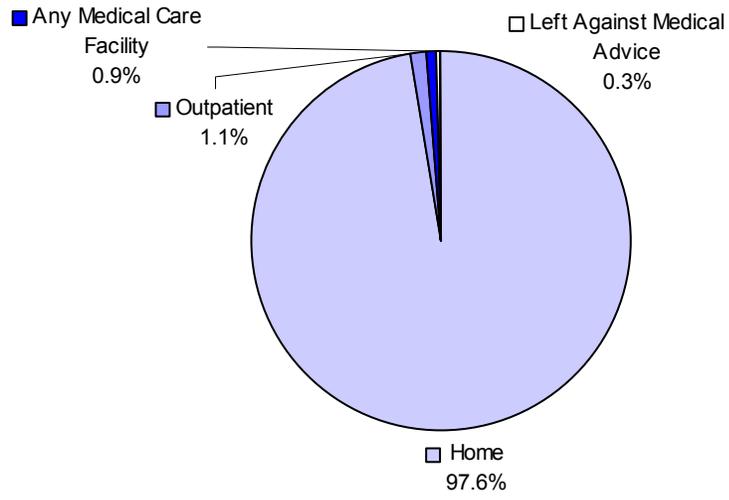
Between 2000-2004, the mean charge per ED visit for children with a primary diagnosis of asthma was \$527, which translates into a total charge of \$3,789,000 per year. The mean ED visit charge did not differ much by sex, age, or race/ethnicity.

**Asthma ED Visits by Source of Payment (Primary Diagnosis)
Connecticut, 0 - 17 years old, 4-year period (2001 - 2004)**



Between 2001-2004, over half (55.3%) of all asthma ED visit charges among children were paid from public funds (i.e., Medicaid). Private insurance (38.8%) was the second leading source of payment for asthma ED visit charges.

**Asthma ED Discharges by Destination (Primary Diagnosis)
Connecticut, 0 - 17 years old, 5-year period (2000 - 2004)**



Between 2000-2004, the vast majority (97.6%) of children who went to the ED for their asthma were discharged to the home.

ASTHMA MORTALITY

According to the National Vital Statistics System, 4,261 people in the United States died from asthma in 2002, including 49 in Connecticut.

Data on asthma mortality are available from the Connecticut Department of Public (CT DPH) Health Office of Vital Records. The death file obtained from CT DPH Office of Vital Records reflects not only death events that occur in Connecticut but also those involving Connecticut residents that occur in other states and Canada. The CT DPH reciprocates with every other state in the U.S. and the provinces of Canada in exchanging copies of complete death records for non-residents.

Approximately one Connecticut resident dies of asthma each week. This section presents information on deaths from asthma in Connecticut from 1996-2005. It examines asthma mortality for adults and children separately. When examining asthma mortality trends over time, annual rates and numbers are presented from 1996 for the overall population. To gain an understanding of the current status of asthma mortality, data from the most recent 5-year period (2001-2005) were aggregated for examination and comparison across age, gender and race/ethnicity.

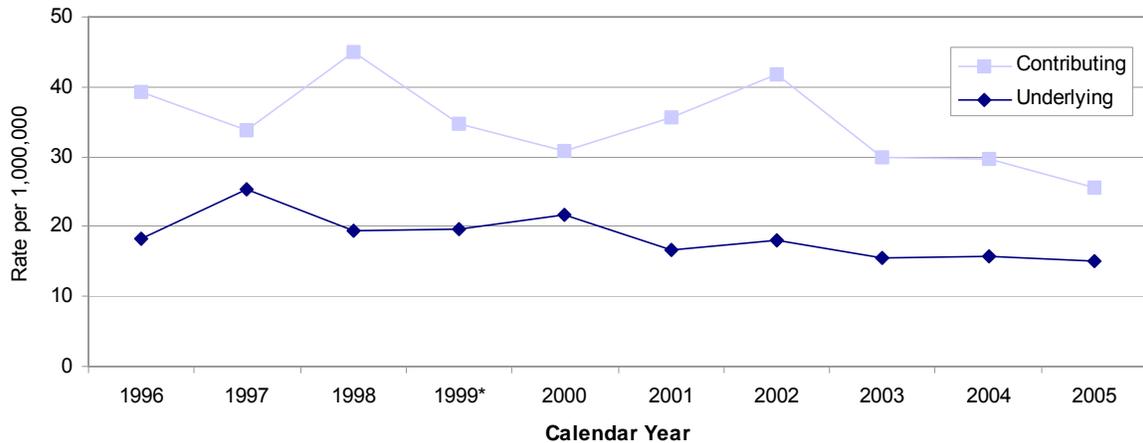
Because of the relatively small number of asthma deaths each year, it was not possible to report asthma death rates at the town level; however, county-level rates are presented. Tables of the information presented in these figures can be found in Appendix 7.

Unless otherwise stated, information reported here is for deaths among Connecticut residents with asthma listed as the underlying cause of death. Some limited information is provided for those deaths with asthma listed as a contributing cause of death. "Underlying cause" refers to the first-listed cause of death, that is, the disease or injury that initiated the chain of events leading directly to death. "Contributing cause" refers to the second-listed causes of death, that is, significant conditions that may have contributed to the death. In some cases, the term "asthma-related" is used to indicate deaths for which asthma is listed as any cause of death on the death certificate.

In 1999, the coding scheme used to code cause of death was changed from the International Classification of Disease, ninth revision (ICD-9) to ICD-10. Under ICD-9, which was used during 1979 to 1998, asthma was coded as 493. Under ICD-10, which has been used since 1999, asthma is coded as J45 and J46. This change had particular impact on deaths among older individuals because of changes to the coding of deaths due to chronic obstructive pulmonary disease (COPD). Specifically, under ICD-9, death certificates that had COPD listed with asthma would have been coded as asthma deaths; under ICD-10 these deaths would be coded as "other specified COPD". Because of this change, mortality data from 1999-2005 cannot be directly compared to data from 1996-1998.

Asthma Mortality among Adults

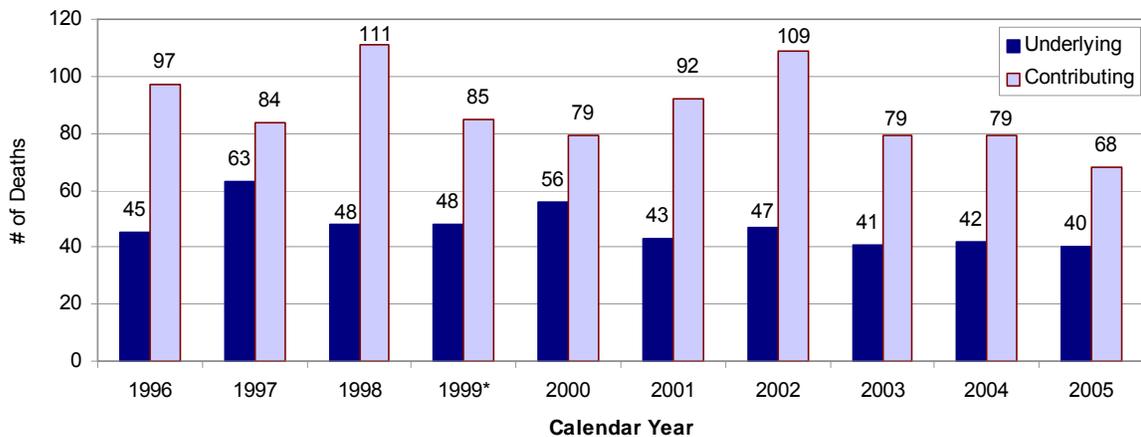
**Asthma Death Rates by Year and Underlying & Contributing Cause
Connecticut, 18+ years old (1996 - 2005)**



* ICD coding for asthma deaths changed from ICD9 to ICD10 in 1999.

From 1996-2005 among adults 18 years of age and older, the average death rate was 18.5 per 1,000,000 and 34.5 per 1,000,000 with asthma as the underlying and contributing cause, respectively. The death rate with asthma as a contributing cause was consistently higher than the death rate with asthma as an underlying cause; both rates appeared to be on a general downward trend since 1996. In 2005, the death rate was 15.0 per 1,000,000 and 25.5 per 1,000,000 with asthma as the underlying and contributing cause, respectively.

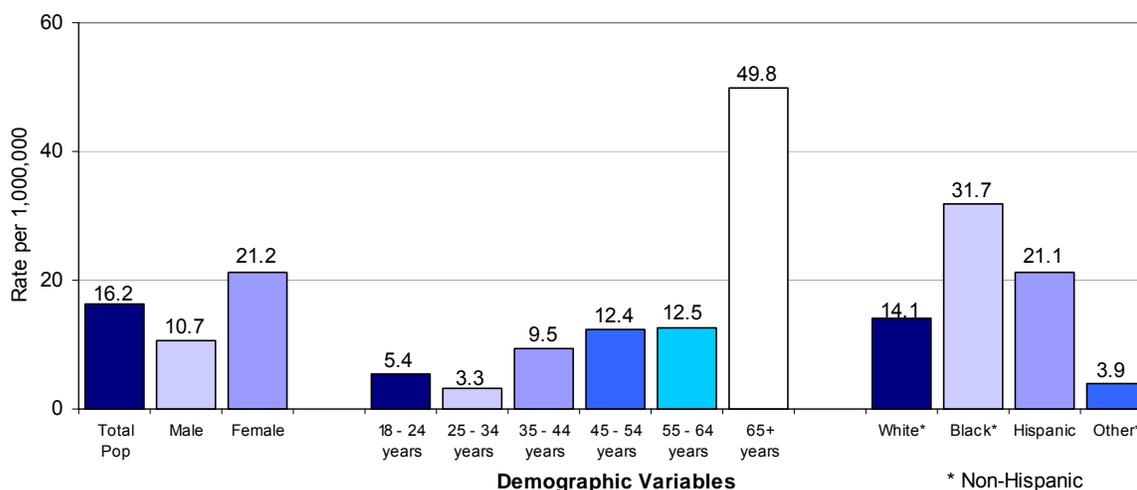
**Asthma Deaths by Year and Underlying & Contributing Cause
Connecticut, 18+ years old (1996 - 2005)**



* ICD coding for asthma deaths changed from ICD9 to ICD10 in 1999.

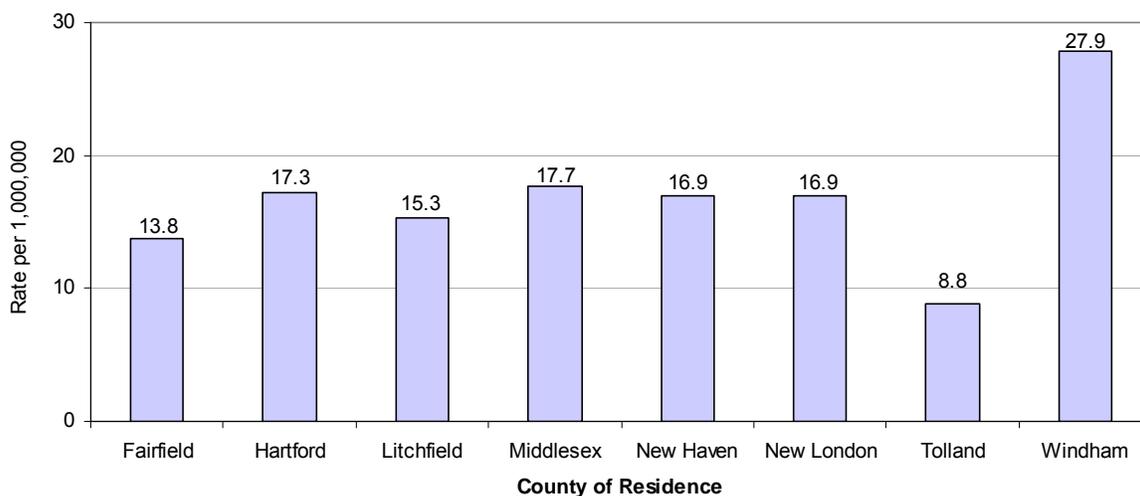
Each year in Connecticut there are, on average, 136 asthma-related deaths among adults. The majority of these deaths have asthma as the contributing, rather than underlying, cause of death. Between 1996-2000, there was an average of 143 deaths with asthma listed as the underlying (52) or contributing (91) cause. Between 2001-2005, there was an average of 128 deaths with asthma listed as the underlying (43) or contributing (85) cause.

Asthma Death Rates by Sex, Age Group & Race / Ethnicity (Underlying Cause), Connecticut, 18+ years old, 5-year period (2001 - 2005)



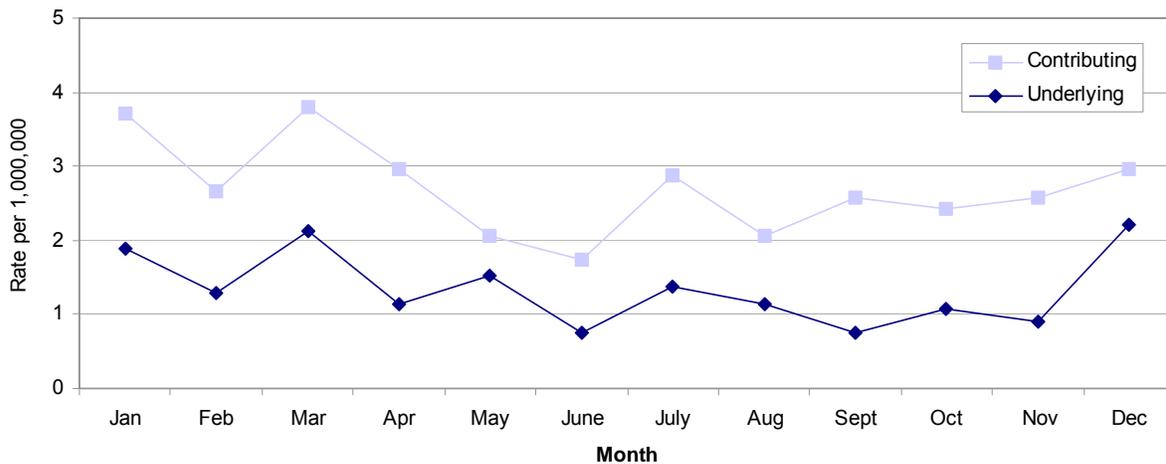
Over the 5-year period between 2001-2005, there was an average of 43 deaths (16.2 per 1,000,000) among adults with asthma as the underlying cause each year. The asthma death rate among women was 2 times higher than among men. The rate among adults aged 65 years and over was 15.2 times higher than among adults aged 25-34 years, and the rate generally decreased as age decreased. The asthma death rates among non-Hispanic black and Hispanic adults were 2.3 and 1.5 times higher, respectively, than among non-Hispanic white adults.

Asthma Death Rates by County of Residence (Underlying Cause) Connecticut, 18+ years old, 5-year period (2001 - 2005)



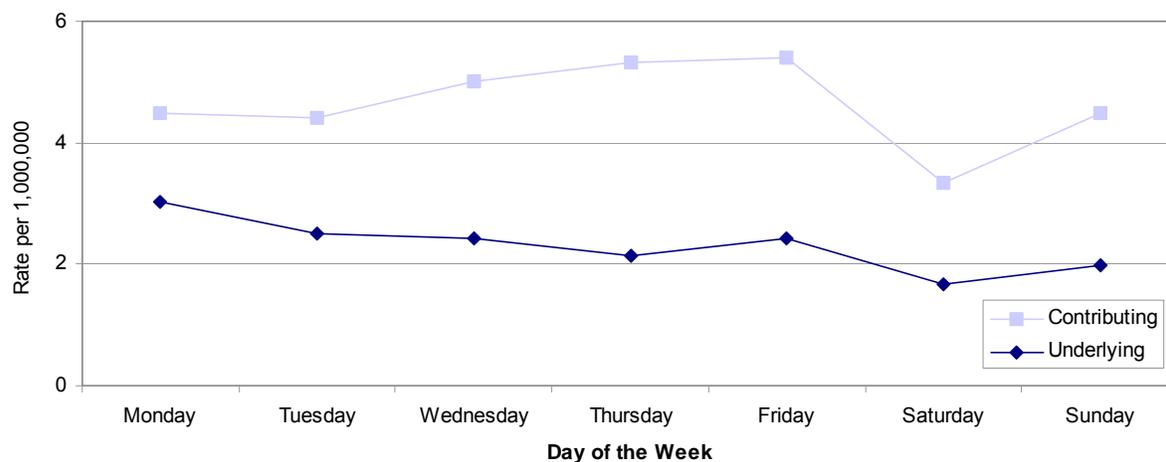
Between 2001-2005, the rate of death among adults with asthma as an underlying cause was highest in Windham county (27.9 per 1,000,000), followed by Middlesex (17.7), Hartford (17.3), New Haven (16.9), and New London (16.9) counties. With the exception of Middlesex county, counties that experienced higher hospitalization rates also had higher death rates. It should be noted that the highest number of asthma deaths took place among adults from Hartford (11 each year), New Haven (11), and Fairfield (9) counties.

**Asthma Death Rates by Month and Underlying & Contributing Cause
Connecticut, 18+ years old, 5-year period (2001 - 2005)**



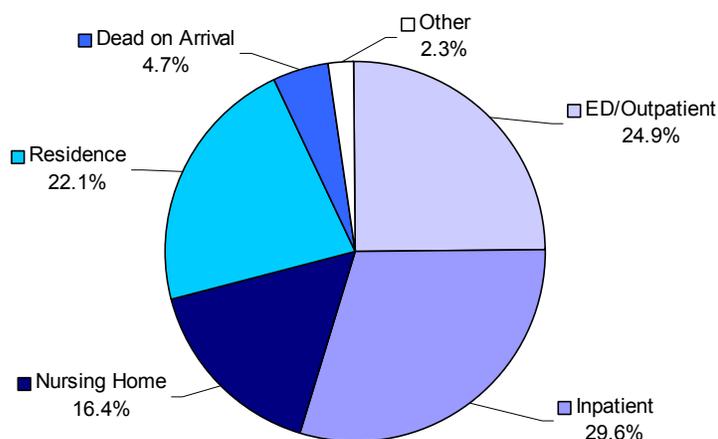
Between 2001-2005, deaths among adults with asthma as either an underlying or contributing cause showed a general seasonal pattern with the highest rates occurring in winter and early spring (December to March).

Asthma Death Rates by Day of the Week and Underlying & Contributing Cause, Connecticut, 18+ years old, 5-year period (2001 - 2005)



Between 2001-2005, deaths among adults with asthma as the underlying cause showed the highest rates on Monday, and the rates generally decreased with each elapsing day of the week. The death rate with asthma as a contributing cause of death showed an increase from Tuesday through Friday. Both rates were lower during the weekend, a pattern that was also observed with hospitalizations due to asthma.

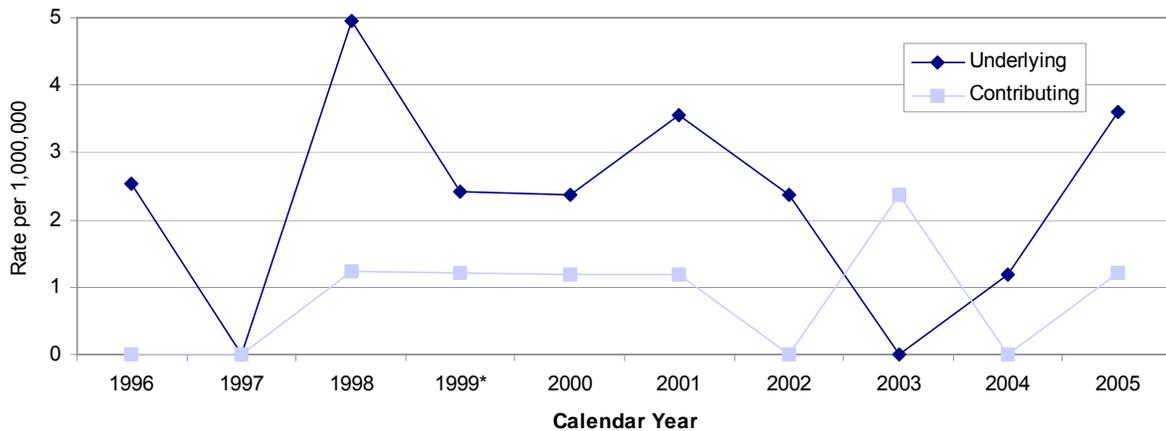
**Asthma Deaths by Place of Death (Underlying Cause)
Connecticut, 18+ years old, 5-year period (2001 - 2005)**



Between 2001-2005, over half of all adults who died from asthma died in a hospital setting [either inpatient (29.6%) or ED/outpatient (24.9%)]. The next highest percentage of asthma deaths occurred in the patients' residence.

Asthma Mortality among Children

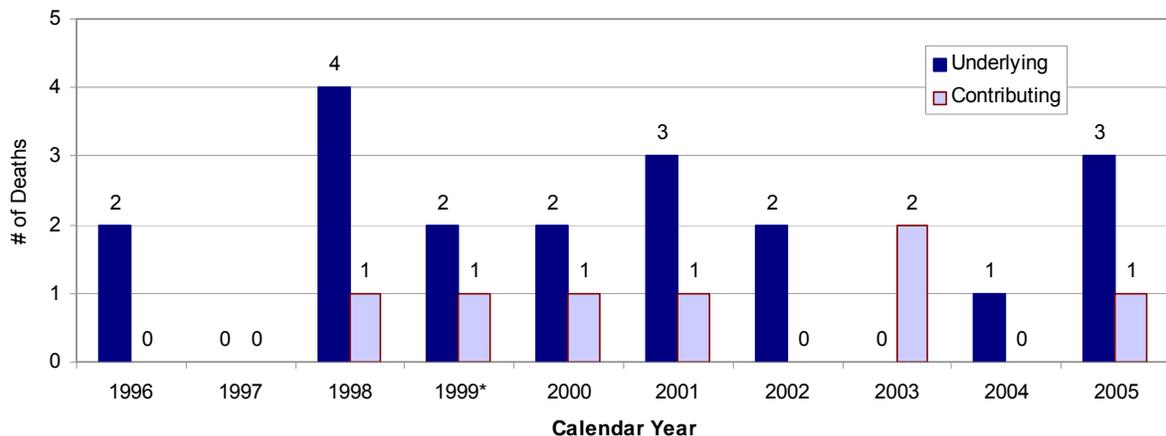
**Asthma Death Rates by Year and Underlying & Contributing Cause
Connecticut, 0 - 17 years old (1996 - 2005)**



* ICD coding for asthma deaths changed from ICD9 to ICD10 in 1999.

From 1996-2005 among children 0-17 years old, the average death rate was 2.3 per 1,000,000 and 0.8 per 1,000,000 with asthma as the underlying and contributing cause, respectively (rates may be unstable due to small number of deaths and thus should be interpreted with caution). The death rate with asthma as an underlying cause was generally higher than the death rate with asthma as a contributing cause. In 2005, the death rate was 3.6 per 1,000,000 and 1.2 per 1,000,000 with asthma as the underlying and contributing cause, respectively.

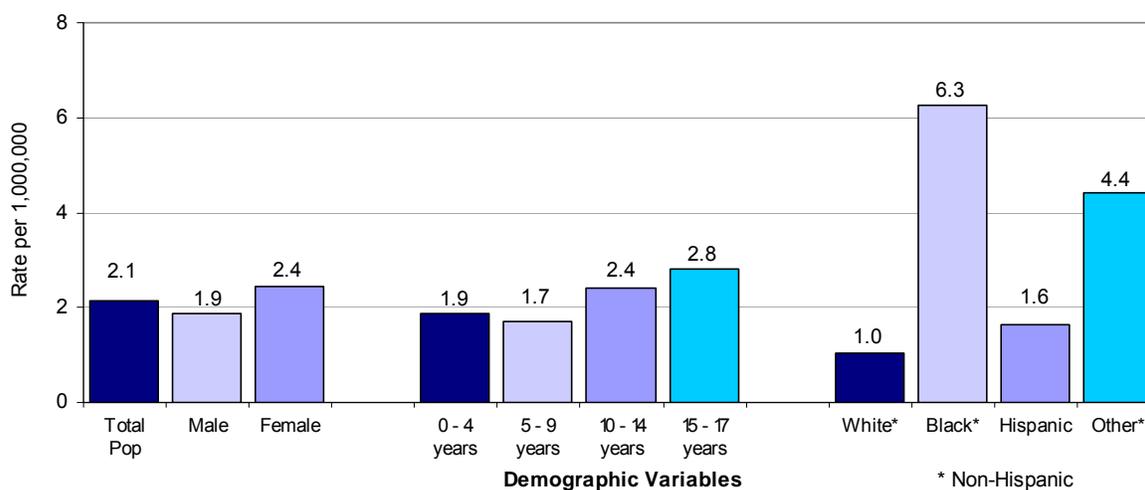
**Asthma Deaths by Year and Underlying & Contributing Cause
Connecticut, 0 - 17 years old (1996 - 2005)**



* ICD coding for asthma deaths changed from ICD9 to ICD10 in 1999.

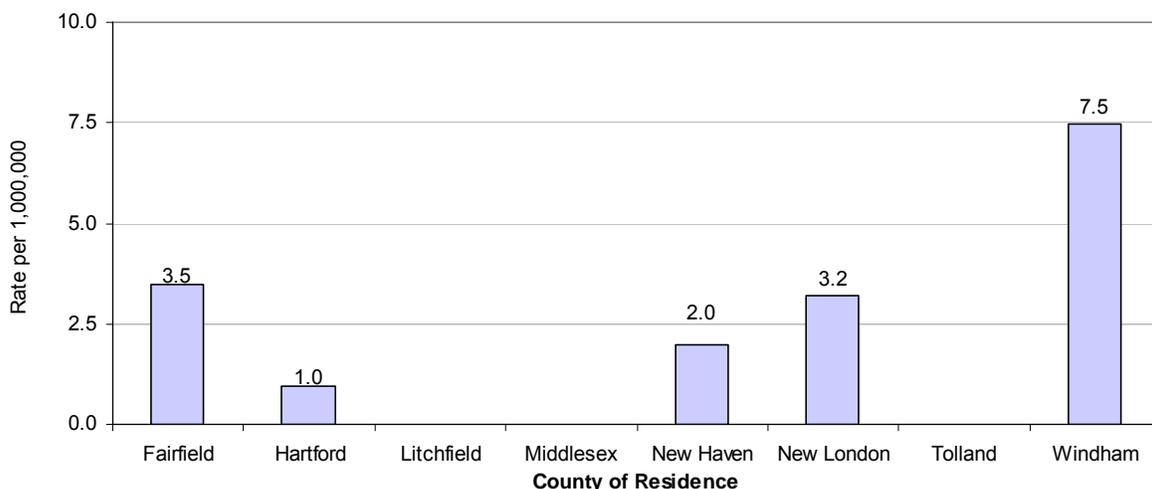
Each year in Connecticut there are, on average, 3 asthma-related deaths among children. The majority of these deaths have asthma as the underlying (2 per year), rather than contributing (1), cause of death.

Asthma Death Rates by Sex, Age Group & Race / Ethnicity (Underlying Cause), Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)



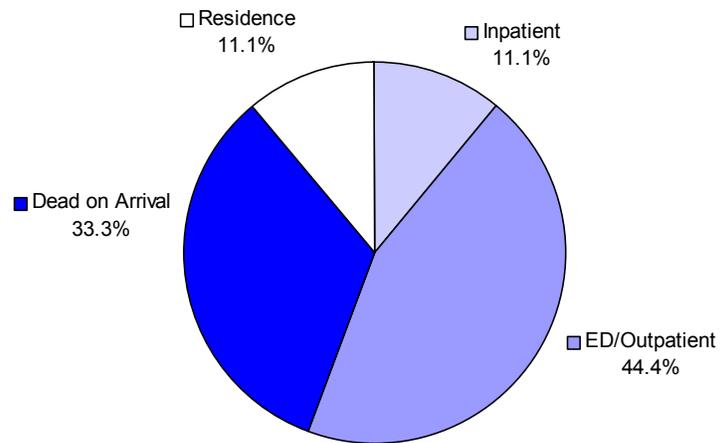
Over the 5-year period between 2001-2005, there was an average of 2 deaths (2.1 per 1,000,000) among children with asthma as the underlying cause each year. The asthma death rate among girls was 1.3 times higher than among boys. The rate among children aged 15-17 years was 1.6 times higher than among children aged 5-9 years, and the rate generally increased as age increased. The asthma death rates among non-Hispanic black and Hispanic children were 6.0 and 1.6 times higher, respectively, than among non-Hispanic white children.

Asthma Death Rates by County of Residence (Underlying Cause) Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)



Between 2001-2005, the rate of death with asthma as an underlying cause of death among children was highest in Windham county (7.5 per 1,000,000), followed by Fairfield (3.5) and New London (3.2) counties. There were no asthma deaths reported among children in Litchfield, Middlesex, or Tolland counties during this time period.

**Asthma Deaths by Place of Death (Underlying Cause)
Connecticut, 0 - 17 years old, 5-year period (2001 - 2005)**



Between 2001-2005, close to half (44.4%) of the children who died from asthma died in an ED/outpatient setting, while one-third (33.3%) was dead upon arrival at the hospital. Approximately 11% of child deaths due to asthma occurred in the home.

ASTHMA AMONG SCHOOL CHILDREN

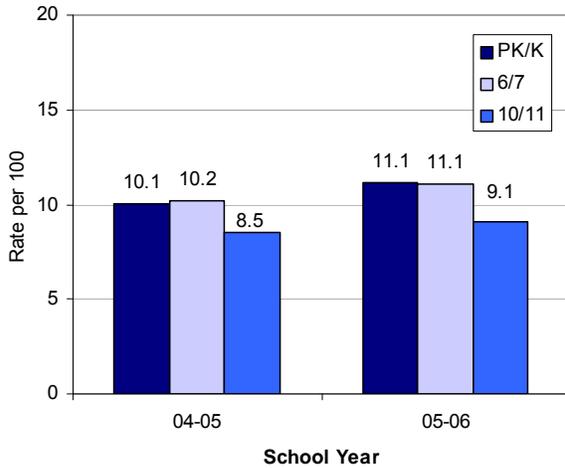
Pursuant to Connecticut General Statute (CGS§ 10-206), the State of Connecticut Department of Public Health's (DPH) Asthma Program has established a statewide system for school-based asthma surveillance based on the school Health Assessment Record (HAR).

CGS§ 10-206 requires that schools report to DPH, on an annual basis, information on students with asthma. A student is considered to have asthma if he/she meets any of the following conditions: 1) has a provider's diagnosis of asthma indicated on the HAR; 2) has a provider medication order for asthma medication on file; 3) has an Asthma Action Plan (AAP) on file; 4) shows symptoms of asthma; or, 5) has a parental note on file indicating the child has asthma. Information to be reported on students with asthma includes: age, gender, race, ethnicity, asthma severity, diagnostic source, and school. This information is only reported for students with asthma in grades requiring a HAR [pre-kindergarten (PK) or kindergarten (K), 6 or 7, and 10 or 11].

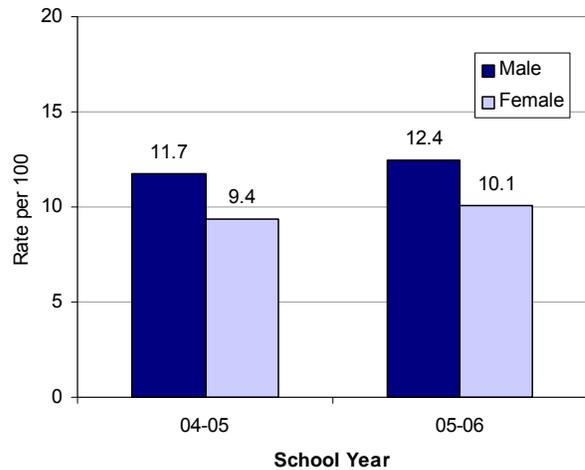
School districts choose which grades require a HAR based on the options provided by the legislation. More specifically, it is up to the district to decide whether to require a HAR for students in grades PK or K, 6 or 7, and 10 or 11. School nurses are required to submit asthma data on the grades that require a HAR only, but some submit data on the other grades as well. This poses a problem because districts do not explicitly state on the asthma reporting forms which grades require a HAR. For example, a district may require that asthma data be submitted for students in PK, yet some nurses may unnecessarily also submit asthma data for grade K. In these instances it is very difficult to decipher which grade the nurses in the district are required to submit asthma data for. Asthma rates are calculated by dividing the number of students with asthma by the total number of children enrolled in the required grades in the district. However, for some districts, it was unclear which grades to include in this enrollment number because it was unclear which grades school nurses were required to report. In light of this issue, the following steps were taken to calculate enrollment data for each district: 1) Enrollment data were acquired from State Department of Education (SDE). If enrollment data could not be acquired from SDE, reported enrollment data from school nurses were used; 2) Under each school, for each grade that reported a child with asthma, the enrollment data for that grade in that school were used; 3) For schools that reported 'None' with asthma, enrollment data for grade K were used over grade PK, grade 6 over grade 7, and grade 10 over grade 11, depending on the grades covered by each school. Enrollment data for these grades were used because they are the most likely to require HAR. 4) District enrollment data were determined by adding the school enrollment as defined by steps 2 and 3 above. Starting with the 2006-2007 school year, districts were asked to state which grades require reporting, and asthma rates will be calculated using the number of students with asthma and enrollment data for those grades only. It should also be noted that not every school had enrollment data broken down by race and gender. When calculating asthma rates by race and gender, data on students with asthma from schools without enrollment data broken down by race and gender were not included in the calculation. This represented approximately one percent of the reported students with asthma, thus having little to no affect on asthma rates by race and gender.

This section summarizes the information collected during the 2004-2005 and 2005-2006 school years. A more detailed report, including district-level information, can be obtained from the Asthma Program website (www.ct.gov/dph).

Student Asthma Rates by School Year and Grade (Public Schools)

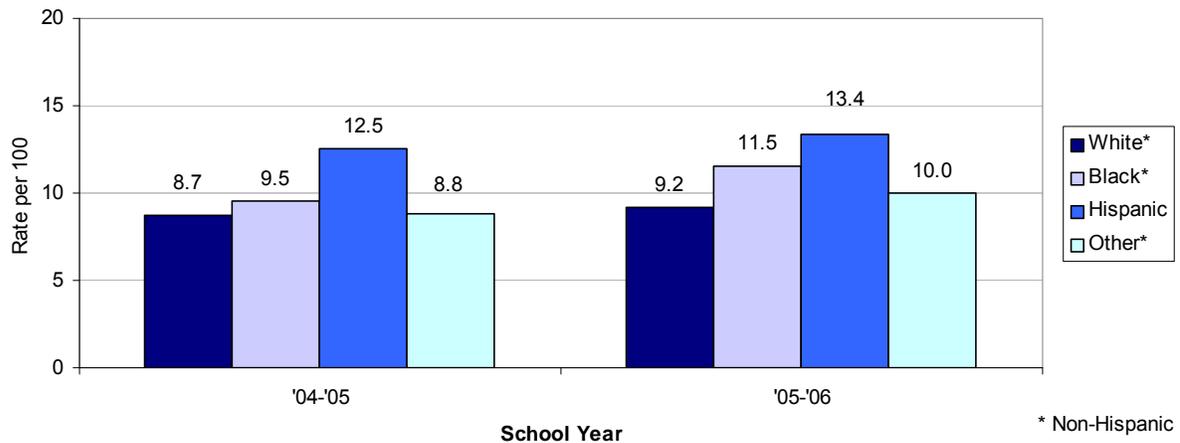


Student Asthma Rates by School Year and Sex (Public Schools)



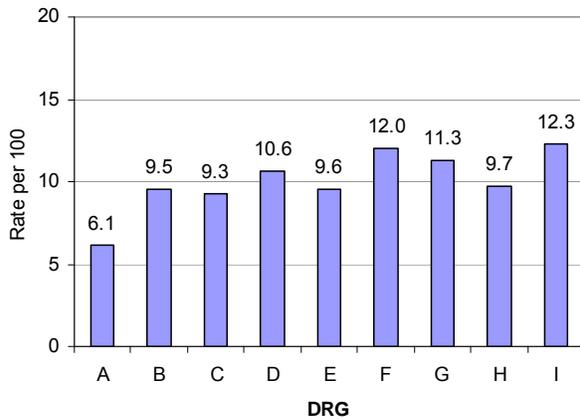
Overall in Connecticut, 9.7% of public school students reported having asthma during the 2004-2005 school year, and 10.5% reported having asthma during the 2005-2006 school year (*data not shown*). Asthma rates did not differ between PK/K and 6/7 grade students and were slightly lower among 10/11 grade students when compared to their younger cohorts. In regard to gender, males had a slightly higher rate of asthma than females.

Student Asthma Rates by School Year and Race / Ethnicity (Public Schools)

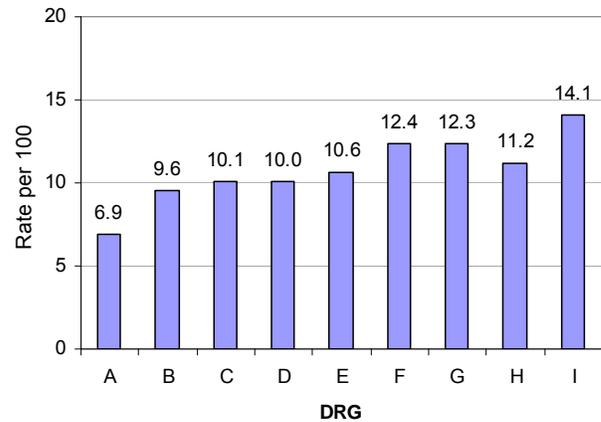


Although non-Hispanic whites made up the majority of students reported to have asthma (*data not shown*), Hispanics and non-Hispanic blacks had higher rates of asthma. Asthma rates rose slightly for all racial/ethnic groups from the 2004-2005 to the 2005-2006 school year.

**Student Asthma Rates by DRG
(Public Schools: 04-05)**



**Student Asthma Rates by DRG
(Public Schools: 05-06)**



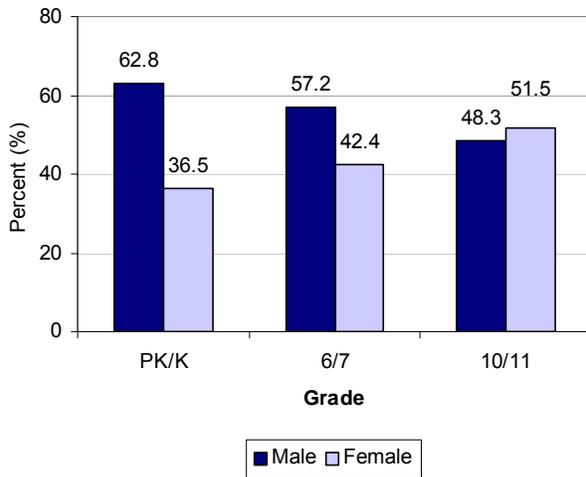
Asthma Rates by Race/Ethnicity, DRG, and School Year (Public Schools)

DRG	School Year 2004-2005				School Year 2005-2006			
	White*	Black*	Hispanic	Other*	White*	Black*	Hispanic	Other*
A	4.7	3.0	9.6	5.7	6.0	5.1	16.4	5.9
B	8.7	10.7	8.6	5.6	8.2	12.5	12.6	5.1
C	8.3	14.3	6.6	5.9	9.3	14.1	10.8	5.3
D	9.6	12.4	12.5	8.0	9.7	12.3	10.9	7.1
E	9.1	6.5	12.7	11.3	10.0	11.5	15.4	10.9
F	10.7	16.4	19.8	7.8	11.2	16.9	9.7	7.4
G	9.0	13.7	12.7	10.8	10.0	13.0	13.1	10.7
H	8.4	9.5	10.5	7.7	8.5	12.9	11.8	7.1
I	8.3	7.8	13.6	18.1	8.5	10.1	14.6	17.8
TOTAL	8.7	9.5	12.6	8.8	9.1	11.4	13.4	8.2

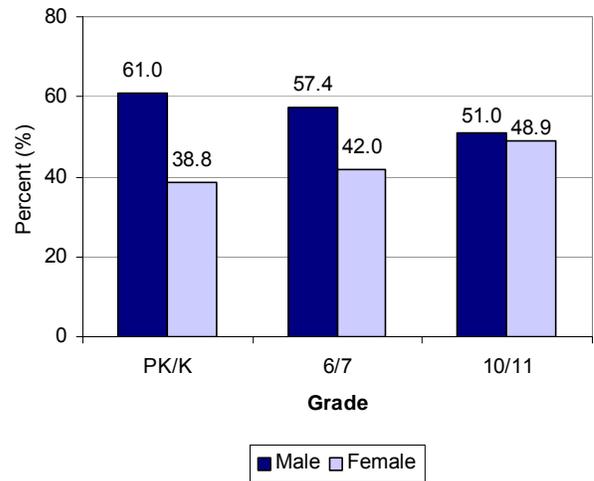
*Non-Hispanic

District Reference Groups (DRGs) is a classification system established by the State Department of Education (SDE) in which districts that have public school students with similar socioeconomic status (SES) and need are grouped together. The 2006 DRGs classification is based on seven variables: income, parents' education, parents' occupation, family structure, poverty, home language, and district enrollment. In general, SES decreases with each letter from A to I, and asthma rates increased with decreasing SES. Additionally, non-Hispanic black and Hispanic students generally showed higher asthma prevalence across all DRGs when compared to non-Hispanic white students. It should be noted that 34.0% and 37.1% of students with asthma were attending schools in the two DRGs with the lowest SES for the 2004-2005 and 2005-2006 school years, respectively (*data not shown*). For more information regarding DRGs, please visit: http://www.csde.state.ct.us/public/cedar/databulletins/db_drg_06_2006.pdf.

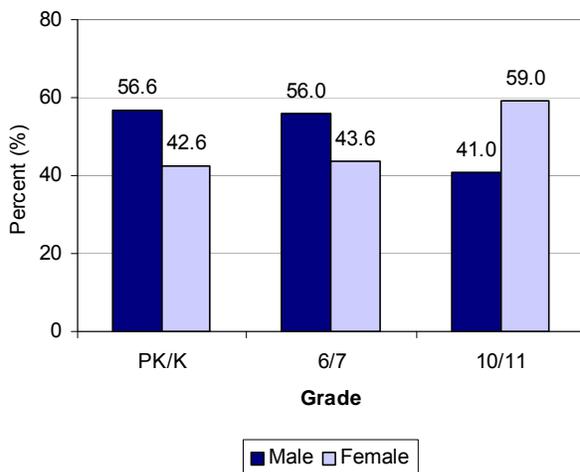
Students with Asthma by Grade and Sex (Public Schools: 04-05)



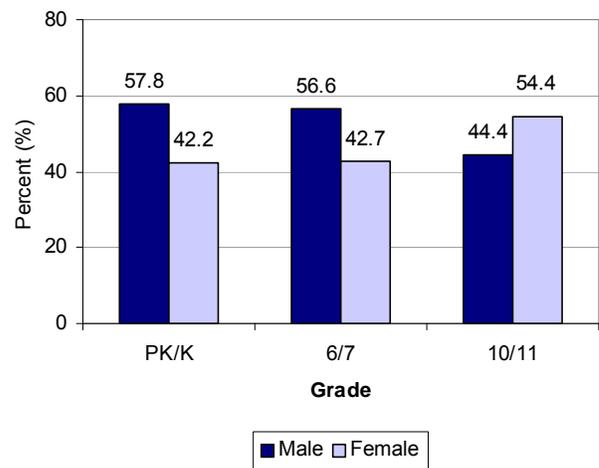
Students with Asthma by Grade and Sex (Public Schools: 05-06)



Students with Asthma by Grade and Sex (Private Schools: 04-05)

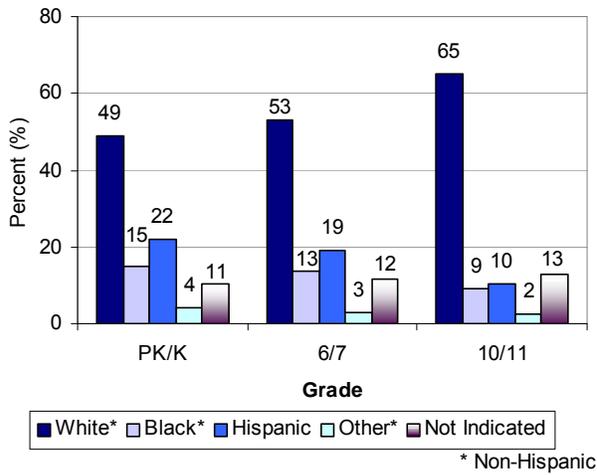


Students with Asthma by Grade and Sex (Private Schools: 05-06)

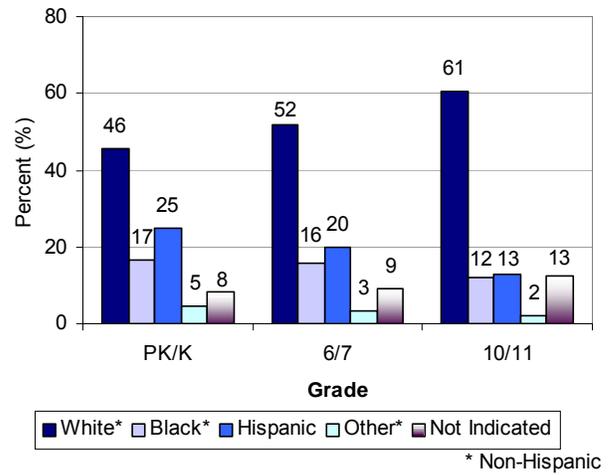


In general, males made up the majority of students with asthma in PK/K and 6/7 grades, while females made up the majority of students with asthma in grades 10/11. This trend held true in private schools during both school years, and in public schools during the 2004-2005 school year. However, there were slightly more 10/11 grade male students than female students with asthma in the public schools during the 2005-2006 school year. Note: students with "Unclassified" listed as their sex were not included in the figures.

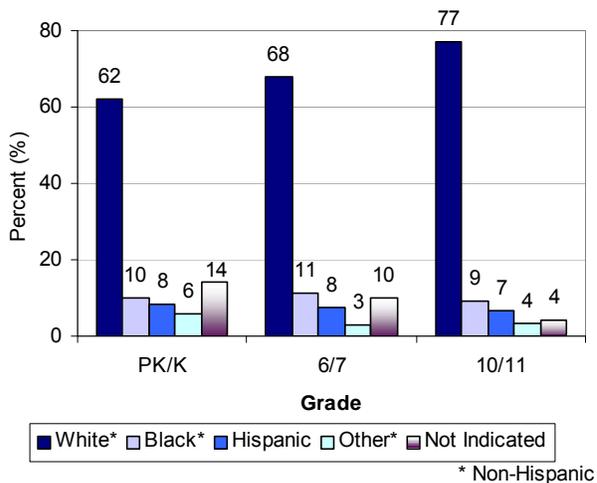
Students with Asthma by Grade and Race/Ethnicity (Public Schools: 04-05)



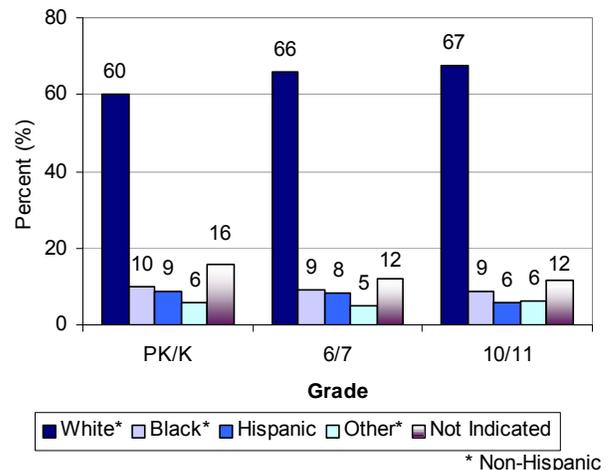
Students with Asthma by Grade and Race/Ethnicity (Public Schools: 05-06)



Students with Asthma by Grade and Race/Ethnicity (Private Schools: 04-05)

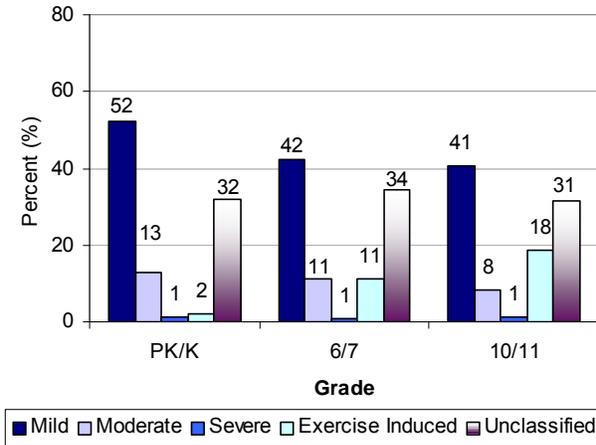


Students with Asthma by Grade and Race/Ethnicity (Private Schools: 05-06)

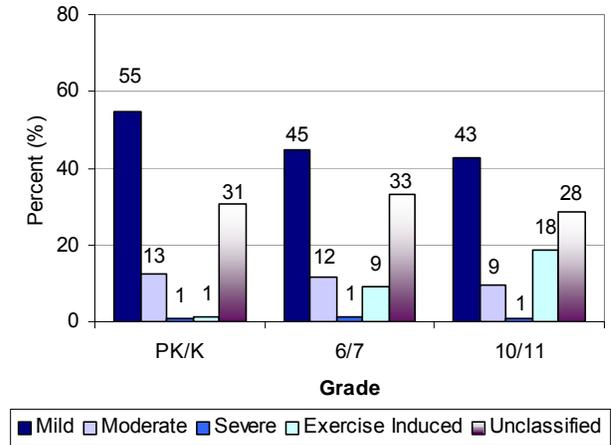


Non-Hispanic whites made up the majority of students with asthma in both public and private schools. This is likely due to the fact that non-Hispanic whites are the largest racial group in the schools (67% and 64% of students in the public schools during the 2004-2005 and 2005-2006 school years, respectively). In public schools, Hispanics represented the second highest percentage of students with asthma for both school years in all grades presented. Among non-Hispanic whites, non-Hispanic blacks and Hispanics in private schools, non-Hispanic blacks represented the second highest percentage of students with asthma.

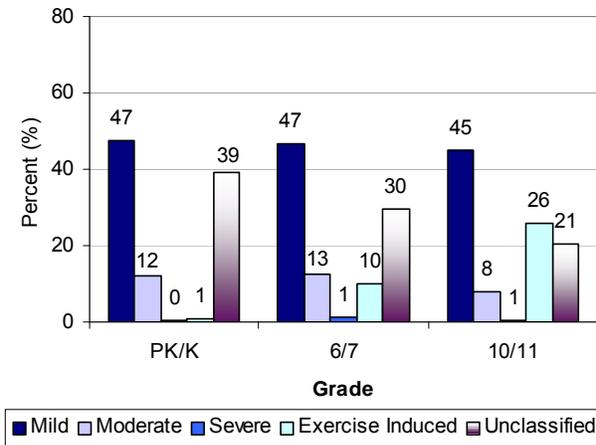
Students with Asthma by Grade and Severity (Public Schools: 04-05)



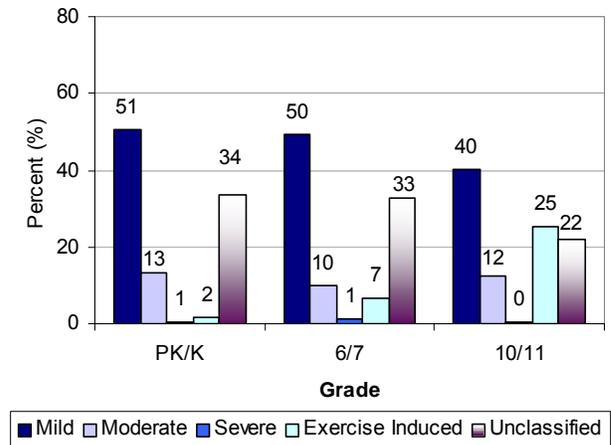
Students with Asthma by Grade and Severity (Public Schools: 05-06)



Students with Asthma by Grade and Severity (Private Schools: 04-05)

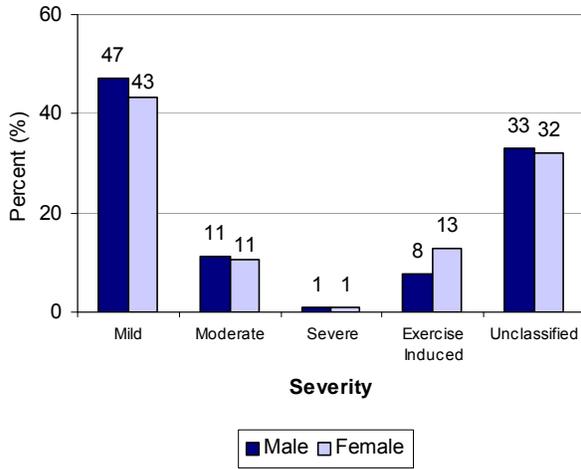


Students with Asthma by Grade and Severity (Private Schools: 05-06)

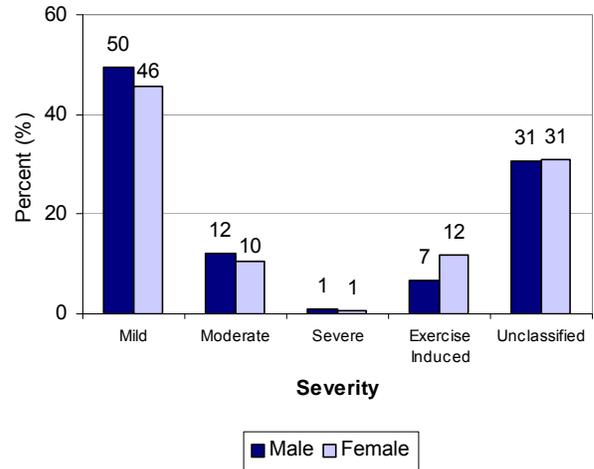


In regard to severity, the majority of asthma cases were reported as mild and unclassified (47% and 32% respectively, *data not shown*). The percentage of students with exercise-induced asthma increased as grade increased, and was higher for 10/11 graders in private schools versus public schools. In public schools, the percentage of students with moderate asthma slightly decreased in 10/11 grade. This trend also held true in private schools during the 2004-2005 school year. In private schools, the percentage of students with unclassified asthma decreased as grade increased.

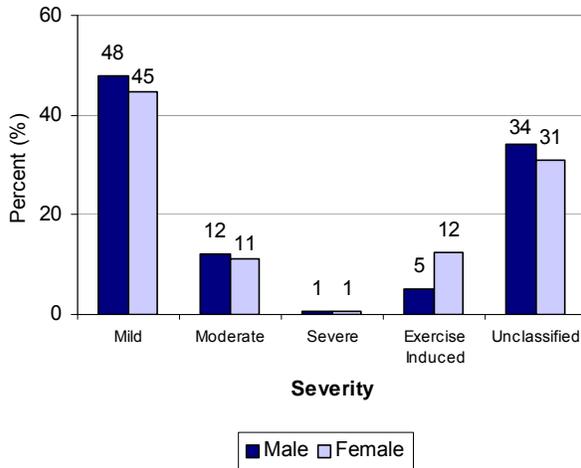
Students with Asthma by Severity and Sex (Public Schools: 04-05)



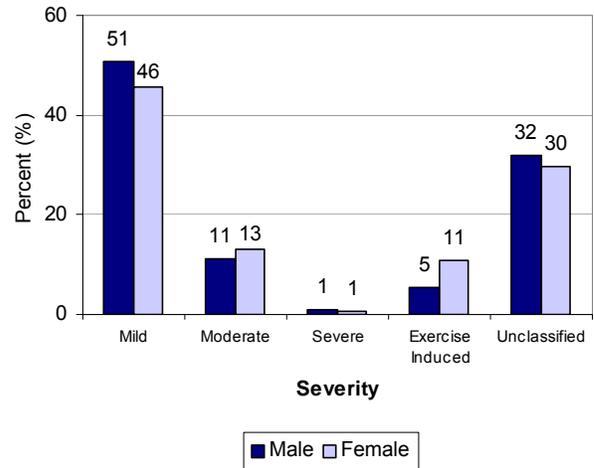
Students with Asthma by Severity and Sex (Public Schools: 05-06)



Students with Asthma by Severity and Sex (Private Schools: 04-05)

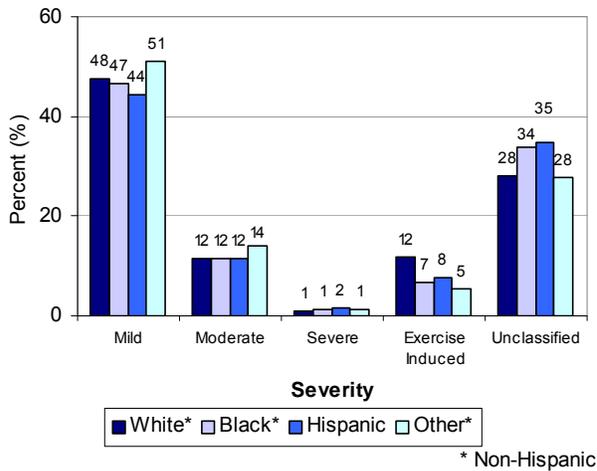


Students with Asthma by Severity and Sex (Private Schools: 05-06)

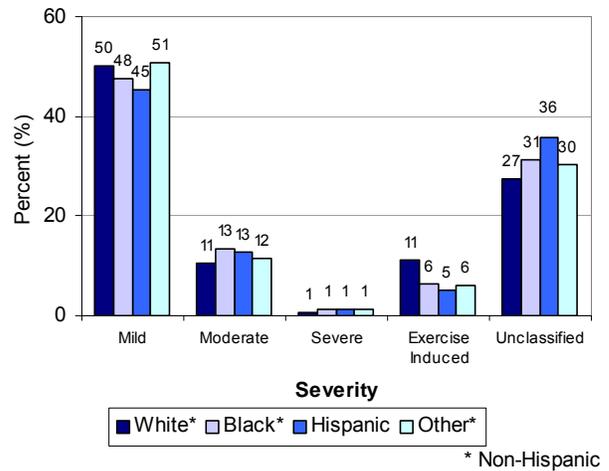


In regard to severity, males consistently showed higher percentages of mild asthma while females showed higher percentages of exercise-induced asthma. Percentages of severe asthma remained low for both males and females in public and private schools.

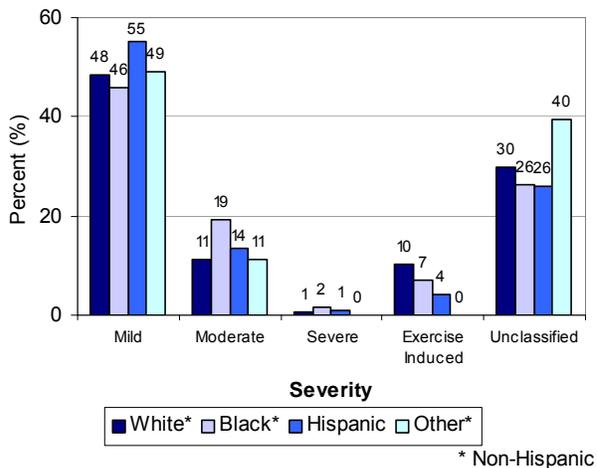
Students with Asthma by Severity and Race/Ethnicity (Public Schools: 04-05)



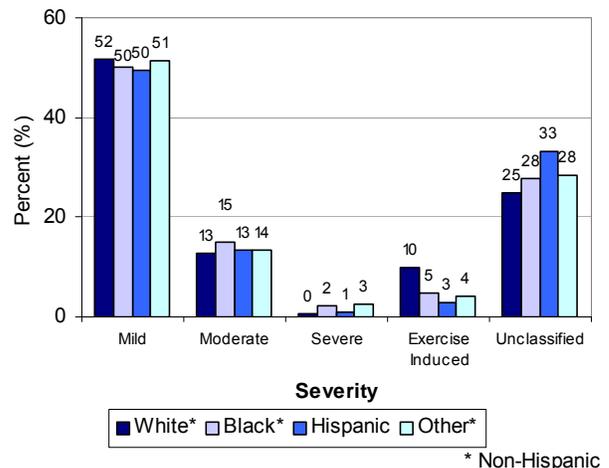
Students with Asthma by Severity and Race/Ethnicity (Public Schools: 05-06)



Students with Asthma by Severity and Race/Ethnicity (Private Schools: 04-05)

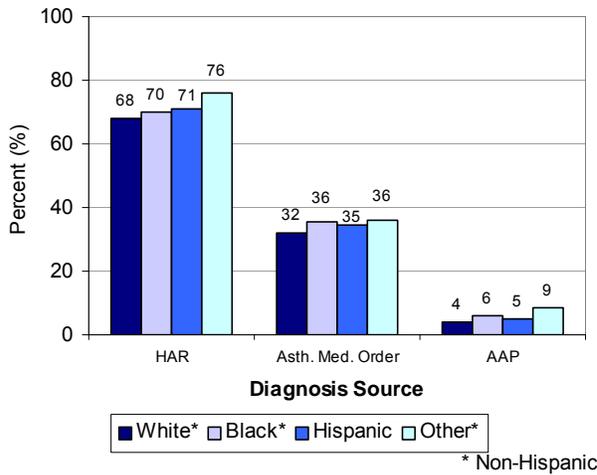


Students with Asthma by Severity and Race/Ethnicity (Private Schools: 05-06)

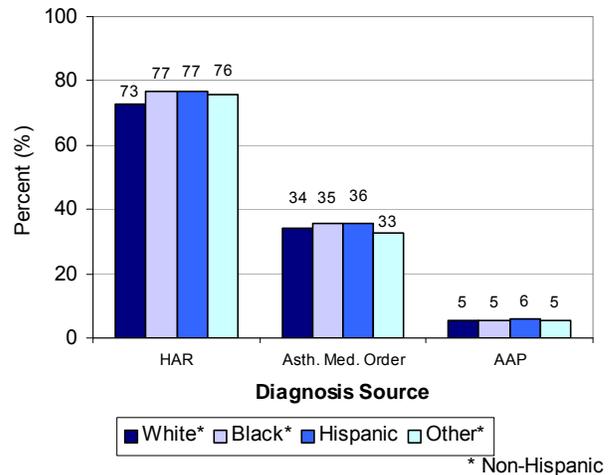


In general, the percentage of students with moderate asthma was similar among non-Hispanic whites, non-Hispanic blacks and Hispanics, except in private schools during the 2004-2005 school year, where non-Hispanic blacks showed a higher percentage of students with moderate asthma than non-Hispanic whites and Hispanics. Exercise-induced asthma was more prevalent in non-Hispanic white students than non-Hispanic blacks and Hispanics in both public and private schools. The percentage of students with severe asthma was low in all racial/ethnic groups, ranging from 0-3%.

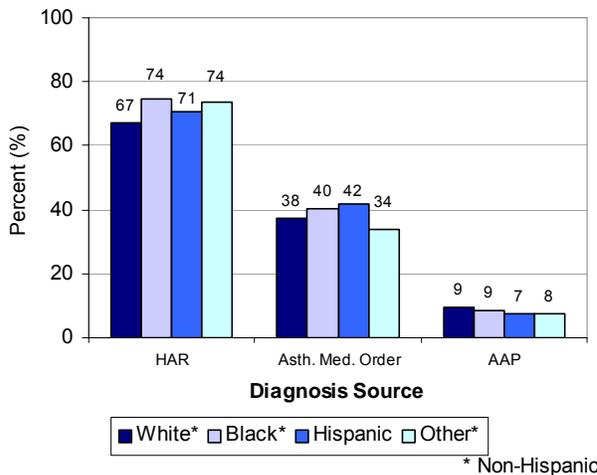
Students with Asthma by Diagnosis Source and Race/Ethnicity (Public Schools: 04-05)



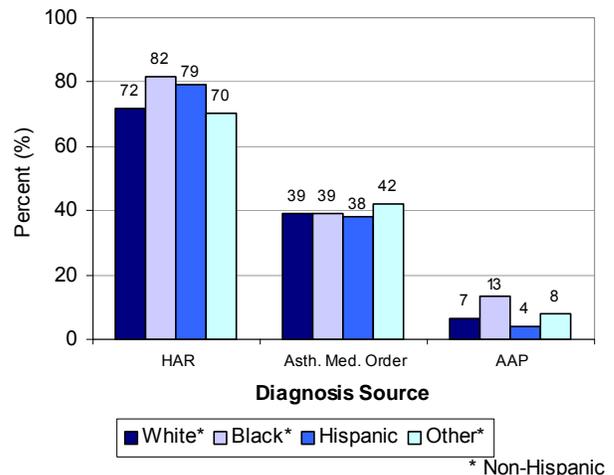
Students with Asthma by Diagnosis Source and Race/Ethnicity (Public Schools: 05-06)



Students with Asthma by Diagnosis Source and Race/Ethnicity (Private Schools: 04-05)



Students with Asthma by Diagnosis Source and Race/Ethnicity (Private Schools: 05-06)



Students were categorized as having asthma if they had any of the following criteria: a provider's diagnosis of asthma indicated on the Health Assessment Record (HAR), a provider medication order for asthma medication on file, an Asthma Action Plan (AAP) on file, symptoms of asthma, or a parental note on file indicating the child has asthma. School nurses were asked to check all that applied. Diagnostic sources submitted to the school by the doctor's office are presented above. Among non-Hispanic whites, non-Hispanic blacks, and Hispanics in public and private schools, non-Hispanic whites were the least likely to have the HAR as the source of their asthma diagnoses. The AAP was the least likely source of an asthma diagnosis for all racial/ethnic groups in both public and private schools.

ASTHMA AMONG CHILDREN ENROLLED IN HUSKY A

Healthcare for Uninsured Kids & Youth (HUSKY) is Connecticut's subsidized health insurance program, designed to help Connecticut families obtain and afford health care coverage for their children. It includes services under the traditional Medicaid program (HUSKY Part A), as well as services for children in higher-income families (HUSKY Part B).

Connecticut Voices for Children (CVC) monitors the impact of managed care on children's health under Medicaid's Early & Periodic Screening, Diagnostic & Treatment (EPSDT) program. Annual reports on asthma prevalence and asthma-related health care among children enrolled in HUSKY A (Medicaid managed care) have been issued since 1998 by the Children's Health Council (1998 – 2002) and, more recently, by Connecticut Voices for Children (2003 – 2005). The data presented here are drawn from these annual reports.

Through 2004 the annual prevalence of pediatric asthma was estimated for Connecticut by determining the percentage of children under 21 years of age who were continuously enrolled in HUSKY A during the entire calendar-year period (January 1 to December 31), and who received any inpatient, outpatient or emergency care with a *primary or secondary diagnosis of asthma* (ICD-9-CM codes 493.0-493.9).

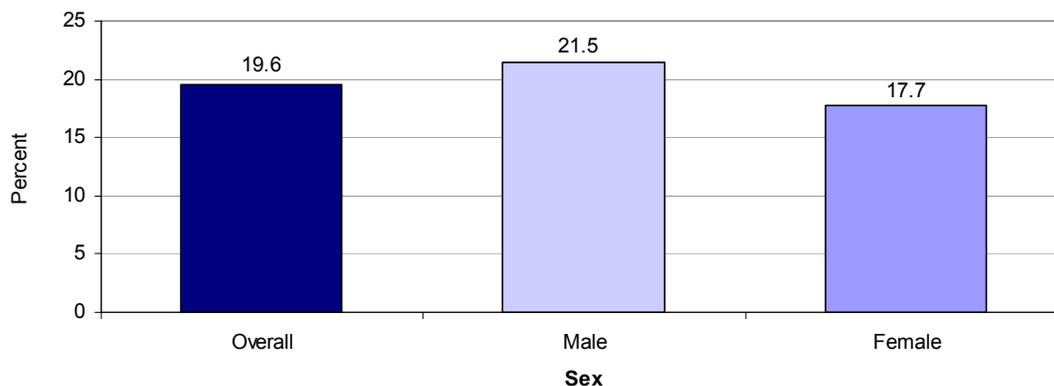
In 2005 this definition was modified to cover HUSKY A enrollees who received *any care for a primary diagnosis of asthma or any prescriptions for asthma medication* listed by the National Committee for Quality Assurance (NCQA) for managed-care performance monitoring. This change in definition will now make Connecticut's findings more comparable to those reported in other states which also use claims data to track the burden of asthma for children enrolled in Medicaid managed-care plans.

Enrollment & Asthma Prevalence in Connecticut's HUSKY A Program	CY 2003	CY 2004	CY 2005 *
Number of children in HUSKY A	163,615	170,937	169,580
# enrolled who received care for asthma	14,948	16,002	33,217
% enrolled who received care for asthma	9.1%	9.4%	19.6%

* Due to the change in definition for pediatric asthma in 2005, the findings corresponding to that year will not be comparable to those reported in previous years.

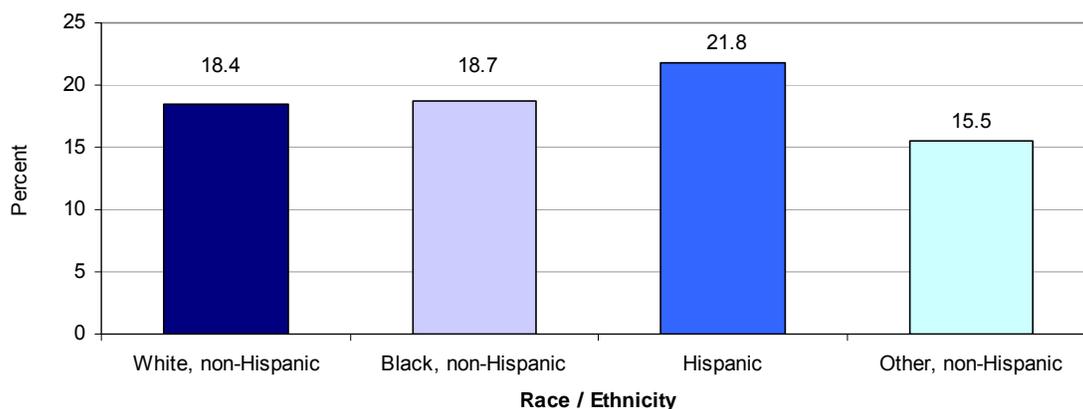
A summary of the enrollment and asthma prevalence data for calendar years 2003, 2004 and 2005 is presented above. During calendar year 2005, there were 169,580 children under the age of 21 who were continuously enrolled in HUSKY Plan A. Of these, 33,217 (19.6% or roughly 1 in 5) received care for a primary diagnosis of asthma, or a prescription for asthma medication.

Estimated Prevalence of Asthma by Sex Among Children Enrolled in HUSKY A (2005)



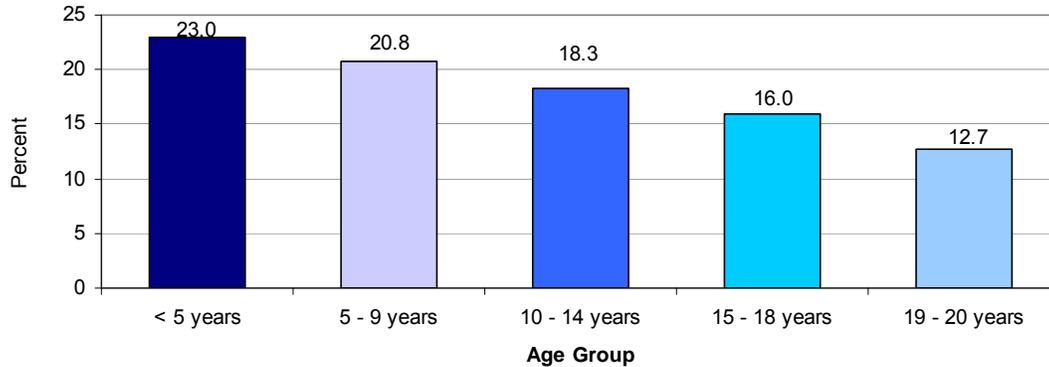
Asthma prevalence was statistically significantly higher among males (21.5%) compared to females (17.7%) enrolled in HUSKY A in 2005.

Estimated Prevalence of Asthma by Race / Ethnicity Among Children Enrolled in HUSKY A (2005)



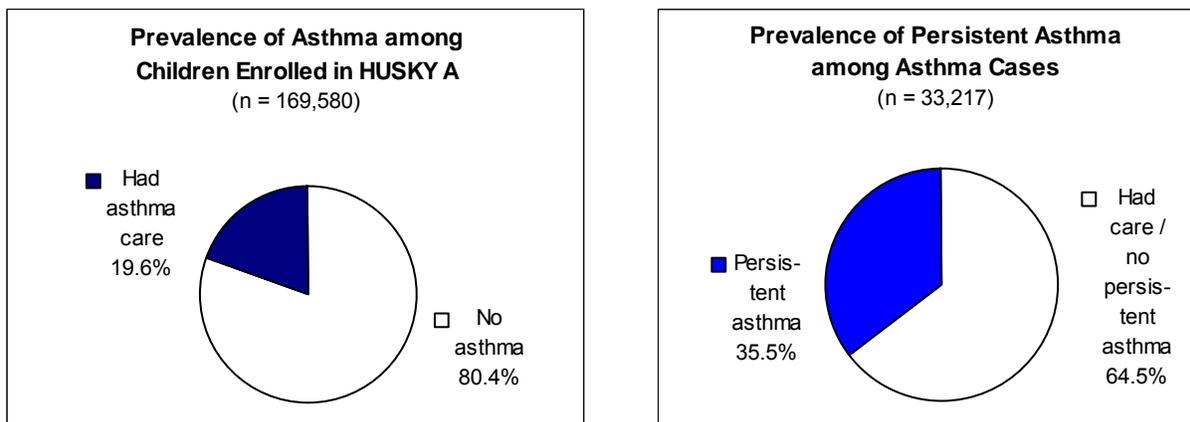
Asthma prevalence in 2005 was also statistically significantly higher among Hispanic children (21.8%) compared to non-Hispanic black (18.7%) or white (18.4%) children enrolled in HUSKY A. Non-Hispanic children of other races had the lowest asthma prevalence at 15.5%

**Estimated Prevalence of Asthma by Age Group
Among Children Enrolled in HUSKY A (2005)**



The prevalence of asthma among children enrolled in HUSKY A tended to decrease as age increased, ranging in 2005 from 23.0% among those under 5 years of age to 12.7% among 19-20 year olds. Asthma prevalence was statistically significantly higher among children under 5 years of age compared to all older children in 2005.

Persistent asthma



The National Committee for Quality Assurance (NCQA) defines children with persistent asthma as those meeting the following criteria: 1) had at least one hospital admission for asthma; 2) had at least one emergency visit for asthma; 3) had at least four outpatient visits and two or more prescriptions for asthma; or 4) received at least four prescriptions for asthma.

Among the 169,580 children continuously enrolled in HUSKY A in 2005, 33,217 (19.6%) had asthma. Of these, 11,787 (35.5%) had persistent asthma.

Asthma-related health care utilization

Type of Care (among children with asthma)	CY 2005
Ambulatory care visits:	
<ul style="list-style-type: none"> ▪ Average number of office/clinic visits ▪ Range in number of office/clinic visits ▪ Children with more than one visit 	3.0 1 – 38 18%
Hospital-based care:	
<ul style="list-style-type: none"> ▪ Children who received any emergency care ▪ Average visits per child with any emergency care ▪ Children who were hospitalized at least once 	9.8% 1.4 visits 1.5%

Among HUSKY A enrollees in 2005, children with asthma made an average of 3.0 office visits for asthma care; fewer than 1 in 5 (18%) of those with any visits made more than one visit as recommended in national guidelines for asthma care (National Heart, Lung & Blood Institute. Guidelines for diagnosis & management of asthma. Bethesda, MD: NHLBI, 1997).

Nearly 10% of children enrolled in HUSKY A with asthma made an emergency department visit during 2005; of these, 1 child in 4 (24.4%) was seen more than once for emergency care (*data not shown*). Fewer than 2% were hospitalized at least once for asthma; of these, 12.7% were hospitalized more than once during the year (*data not shown*).

Follow-up asthma care

Type of Care (among children with asthma)	CY 2005
Children with ED visit:	
<ul style="list-style-type: none"> ▪ Office visit for asthma within 2 weeks 	23.6%
Children who were hospitalized:	
<ul style="list-style-type: none"> ▪ Office visit for asthma within 2 weeks 	55.1%

Of those HUSKY enrollees under 21 who received emergency care for asthma in 2005, fewer than 1 in 4 (23.6%) met the national recommendation of receiving follow-up care within two weeks of their emergency department visit. Among those who were hospitalized, only 1 in 2 (55.1%) received follow-up care within the recommended two weeks of discharge from the hospital.

Although these follow-up rates continue to fall well below national treatment guidelines, they represent an increase over previous years.

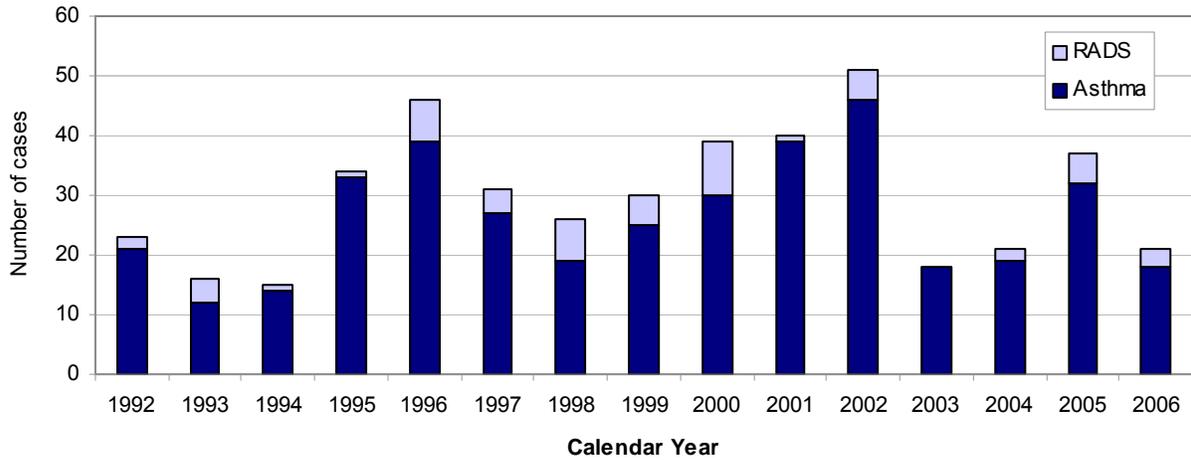
WORK-RELATED ASTHMA

Work-related asthma (WRA) is defined as asthma that is caused, or made worse, by exposures in the workplace. WRA is divided into two categories: occupational asthma, which is new-onset asthma caused by exposure to sensitizers in the workplace, and work-aggravated asthma, which is pre-existing asthma that is made worse by exposure in the workplace. In addition, reactive airways dysfunction syndrome (RADS) is an asthma-like condition that results from an acute exposure to respiratory irritants in the workplace. Because of the similarity of the symptoms, WRA and RADS are often considered together.

It has been estimated that approximately 15% of adult-onset asthma is related to occupational exposures. To date, over 250 agents have been associated with WRA and RADS. The diagnosis of WRA is made by first confirming the diagnosis of asthma and then establishing a relationship between asthma symptoms and the work environment.

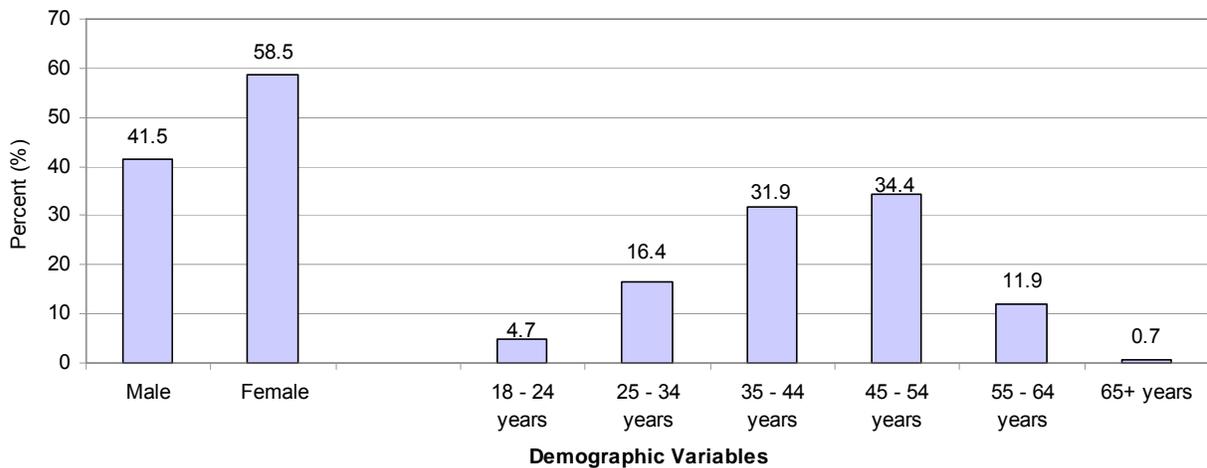
Connecticut General Statutes (CGS§ 31-40a) require that all physicians report any known or suspected cases of occupational disease to the Departments of Labor (DOL) and Public Health (DPH) within 48 hours of diagnosis. This information is then recorded in DPH's Occupational Injuries and Illnesses Surveillance System (OIIS). Approximately 2,100 reports of occupational disease are received by the OIIS each year.

**Physician-Reported Cases of WRA and RADS by Year
Connecticut, 18+ years old (1992 - 2006)**



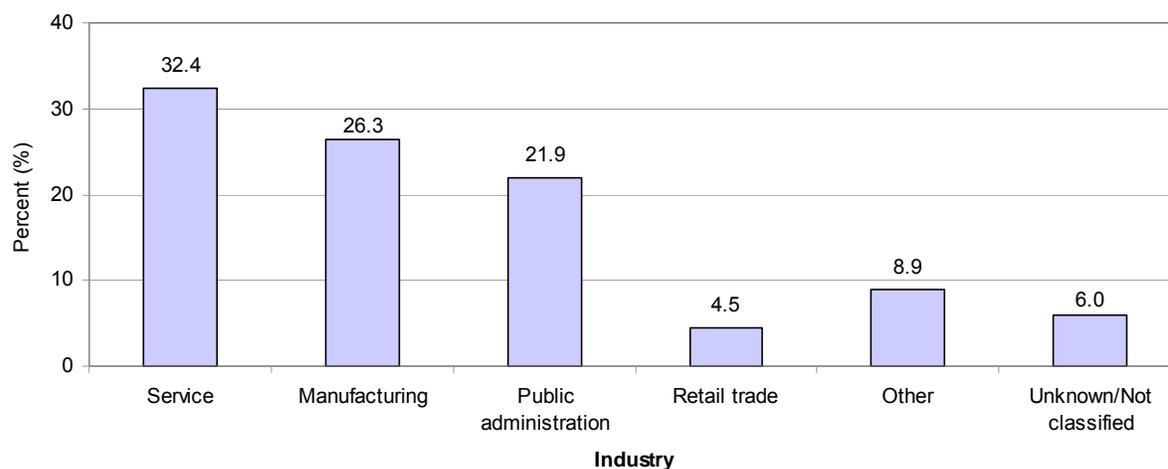
Each year in Connecticut, approximately 30 individuals are reported to the Occupational Injuries and Illnesses Surveillance System (OIISS) with work-related asthma (WRA) or reactive airways dysfunction syndrome (RADS), the vast majority being WRA. Between 1992 and 2006, a total of 448 individuals were reported to have WRA or RADS.

**Physician-Reported Cases of WRA and RADS by Sex and Age Group
Connecticut, 18+ years old (1992 - 2006)**



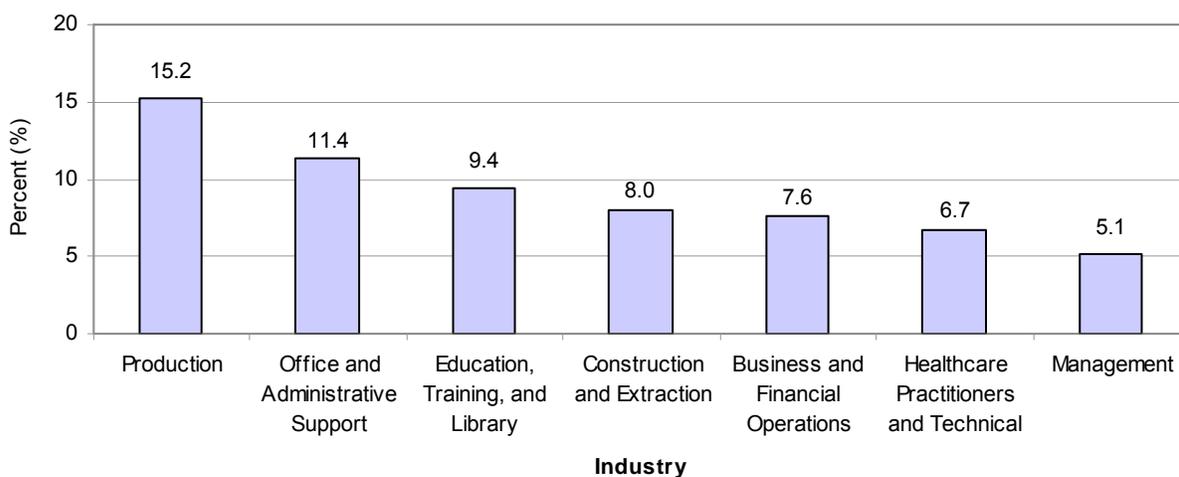
The majority of people reported to have WRA/RADS were females (58.5%). About 2 out of every 3 adults who reported having WRA/RADS were between the ages of 35 to 54 years.

**Physician-Reported Cases of WRA and RADS by Industry
Connecticut, 18+ years old (1992 - 2006)**



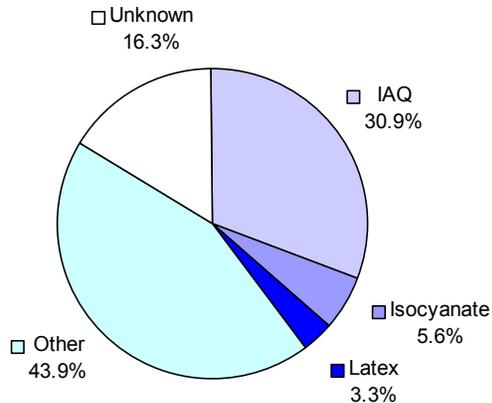
Over 80% of people reported to have WRA/RADS worked in the service (32.4%), manufacturing (26.3%), or public administration (21.9%) industries. Within the service industry, most individuals reported working in health or educational services. Transportation equipment manufacturing was the most commonly reported of the manufacturing industries.

**Physician-Reported Cases of WRA and RADS by Occupation
Connecticut, 18+ years old (1992 - 2006)**



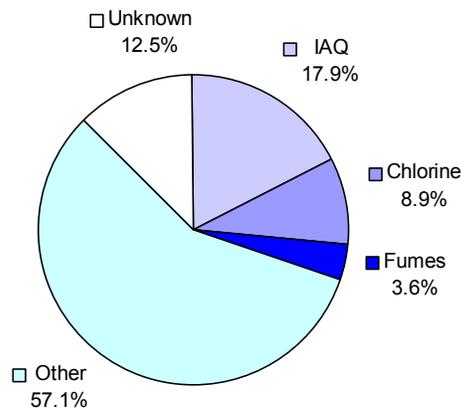
The most commonly reported occupations among individuals with WRA/RADS are shown above. Production occupations (e.g., machinists and assemblers) were the most commonly reported occupations, followed by office and administrative support occupations (e.g., secretaries and administrative assistants), and education, training and library occupations (e.g., teachers).

**Most Commonly Reported Suspected Causes Among Physician-Reported
Cases of WRA
Connecticut, 18+ years old (1992 - 2006)**



In Connecticut, poor indoor air quality (IAQ) was the most commonly reported suspected cause of WRA. Factors contributing to poor IAQ include mold, dust, dust mites, bioaerosols, cigar/cigarette smoke, poor ventilation, and renovation activities. Other commonly reported suspected causes of WRA were exposure to isocyanate or latex.

**Most Commonly Reported Suspected Causes Among Physician-Reported
Cases of RADS
Connecticut, 18+ years old (1992 - 2006)**



Similar to WRA, poor indoor air quality (IAQ) was the most commonly reported suspected cause of RADS in Connecticut, with the same contributing factors. Other commonly reported suspected causes of RADS were exposure to chlorine and fumes.

HEALTHY PEOPLE 2010

Healthy People 2010 (HP 2010) is the prevention agenda for the nation for the first decade of the new century. It is a statement of national health objectives designed to identify the most significant preventable threats to health, and to establish national goals to reduce these threats. Based on data that enable trends and progress to be monitored, *Healthy People 2010* provides a set of 10-year evidence-based objectives for improving the health of all Americans. Its two overarching goals are: 1) to increase the quality and years of healthy life; and, 2) to eliminate health disparities. *Healthy People 2010* covers 28 focus areas with 467 specific objectives. ¹

The table below presents information on the seven (7) HP 2010 objectives that relate to asthma. In addition to the 2010 target measure, information is presented on where Connecticut stands in relation to each HP 2010 goal. It should be noted that information is not available to measure all of the objectives at the state level.

Objective	Age Group	2010 Target	Connecticut
24-1. Reduce asthma deaths.	< 5 years	0.9/million	1.9/million ²
	5 - 14 years	0.9/million	2.1/million ²
	15 - 34 years	1.9/million	3.9/million ²
	35 - 64 years	8.0/million	11.3/million ²
	≥ 65 years	47.0/million	49.8/million ²
24-2. Reduce hospitalizations for asthma.	< 5 years	25.0/10,000	32.1/10,000 ³
	5 - 64 years	7.7/10,000	10.2/10,000 ³
	≥ 65 years	11.0/10,000	20.8/10,000 ³
24-3. Reduce hospital emergency department visits for asthma.	< 5 years	80.0/10,000	128.7/10,000 ⁴
	5 - 64 years	50.0/10,000	61.8/10,000 ⁴
	≥ 65 years	15.0/10,000	19.7/10,000 ⁴
24-4. Reduce activity limitations among persons with asthma.	(N/A)	6.0%	29.1% ⁵
24-5. Reduce the number of school or workdays missed by persons [aged 5 to 64 years] with asthma, due to asthma.	(N/A)	2.0 days	Data not available
24-6. Increase the proportion of persons [aged 18 and older] with asthma who receive formal patient education.	(N/A)	30.0%	Data not available
24-7. Increase the proportion of persons with asthma who receive appropriate asthma care according to the NAEPP Guidelines.	a. Written asthma management plan	38.0%	Data not available
	b. Instruction on proper use of prescribed inhalers	98.8%	
	c. Education on early signs & symptoms; how to respond appropriately	71.0%	
	d. Medication regimens	92.0%	
	e. Follow-up medical care after hospitalization	87.0%	
	f. Assessment & reduction in exposure to environmental risk factors	50.0%	

¹ U.S. Department of Health & Human Services (HHS), *Healthy People 2010 Midcourse Review*. <http://www.healthypeople.gov/data/midcourse/>.

² Connecticut mortality data (5-year average, 2001-2005).

³ OHCA hospitalization data (2005).

⁴ CHIME ED visit data (2004).

⁵ Among adults 18 years and older (BRFSS 2005 data).

CONCLUSION

The Burden of Asthma in Connecticut

The prevalence of asthma among adults is higher in Connecticut than in the United States as a whole. Asthma prevalence also appears to be on the rise in Connecticut, where the prevalence among adults increased to 9.3% in 2006 from 7.8% in 2000. Approximately 248,000 (9.3%) adults and 86,000 (10.5%) children in Connecticut reported that they currently have asthma. In general, asthma prevalence is higher in adult women than men, while the opposite is true among children with boys having a higher rate than girls. Hispanics and non-Hispanic blacks tend to experience higher rates of asthma than non-Hispanic whites, and the prevalence decreases with age.

Although there is no known cure for asthma, it can be managed through proper medical treatment and the avoidance of triggers. With proper management, asthma patients should not have to seek emergency care or be admitted to the hospital because of their asthma. Despite this fact, each year many patients seek care at the emergency department (ED) or hospital for their asthma symptoms.

On an annual basis, Connecticut spends a total of \$47.3 million on hospitalization charges and \$13.4 million on ED visit charges due to asthma as a primary diagnosis. While the rate of asthma hospitalization (primary diagnosis), ED visits (primary diagnosis), and mortality (underlying cause) has not increased during the most recent 5-year period, Connecticut still falls short of its target in reducing asthma burden based on the *Healthy People 2010* objectives. Hospitalization and ED visits with asthma as a secondary diagnosis have steadily increased during the past decade, and more research is needed to fully explore and understand these occurrences.

Priority Populations for intervention

Asthma affects people of all ages, races and genders; however, certain population subgroups are disproportionately affected. Based on asthma prevalence, hospitalization, ED visit, and mortality indicators, the following population subgroups have been identified as priority for asthma intervention in Connecticut: 1) children, 2) adult women, 3) elderly, 4) Hispanics, 5) non-Hispanic blacks, 6) residents of low socioeconomic status (SES), and 7) residents of urban areas.

- 1) Children: Children 0-17 years old, and especially children under 5 years of age, are more likely to be hospitalized or to have gone to the ED because of their asthma when compared to adults.
- 2) Adult Women: Women are more likely than men to have asthma and are also more likely to be hospitalized, to have gone to the ED, and to die because of their asthma.
- 3) Elderly: Adults aged 65 years and older have the highest asthma hospitalization and mortality rates among adults.

- 4) Hispanics: When compared to non-Hispanic whites, Hispanics are over 3 times more likely to be hospitalized, over 4 times more likely to have gone to the ED, and are more than 1.5 times more likely to die because of their asthma.
- 5) Non-Hispanic blacks: When compared to non-Hispanic whites, non-Hispanic blacks are over 3 times more likely to be hospitalized or to have gone to the ED, and are more than twice as likely to die because of their asthma.
- 6) Low SES: Adults and children in lower-income households are more likely to have asthma. About half of all asthma hospitalization and ED visit charges were paid from public funds, such as Medicaid or Medicare.
- 7) Urban Areas: In general, residents of urban areas in Connecticut are more likely to experience higher rates of asthma hospitalization and ED visits.

Over the next year, the Connecticut Department of Public Health (CT DPH) Asthma Program and the Connecticut Asthma Advisory Council (AAC) will develop a revised statewide asthma plan to address asthma in Connecticut. This plan will outline goals, objectives, and strategies to reduce the asthma burden among Connecticut residents. The plan will also present asthma interventions that will focus on reducing asthma burden among the population subgroups identified above. Furthermore, CT DPH Asthma Program, AAC, and asthma partners throughout Connecticut will continue to expand current asthma interventions and assess progress towards reducing the burden of asthma among the priority populations.

Appendix 1: 2005 CT BRFSS Asthma Questions

Core Asthma Questions

(Asked of all adult respondents.)

1. Have you EVER been told by a doctor, nurse, or other health professional that you had asthma?	a. Yes b. No c. Don't know / Not sure d. Refused
2. Do you still have asthma?	a. Yes b. No c. Don't know / Not sure d. Refused

Adult Asthma History Module

(Q1: Asked of all adults who answered "yes" to first core question; Q2-10: Asked of all adults who answered "yes" to both core questions.)

1. How old were you when you were first told by a doctor or other health professional that you had asthma?	a. ____ Age in years (11 or older) b. Age 10 or younger c. Don't know / Not sure d. Refused
2. During the past 12 months, have you had an episode of asthma or an asthma attack?	a. Yes b. No c. Don't know / Not sure d. Refused
3. During the past 12 months, how many times did you visit an emergency room or urgent care center because of your asthma?	a. ____ Number of visits b. None c. Don't know / Not sure d. Refused
4. During the past 12 months, how many times did you see a doctor, nurse or other health professional for urgent treatment of worsening asthma symptoms?	a. ____ Number of visits b. None c. Don't know / Not sure d. Refused
5. During the past 12 months, how many times did you see a doctor, nurse or other health professional for a routine checkup for your asthma?	a. ____ Number of visits b. None c. Don't know / Not sure d. Refused
6. During the past 12 months, how many days were you unable to work or carry out your usual activities because of your asthma?	a. ____ Number of days b. None c. Don't know / Not sure d. Refused

7. Symptoms of asthma include cough, wheezing, shortness of breath, chest tightness and phlegm production when you don't have a cold or respiratory infection. During the past 30 days, how often did you have any symptoms of asthma? Would you say?	<ul style="list-style-type: none"> a. Not at any time b. Less than once a week c. Once or twice a week d. More than 2 times a week, but not every day e. Every day, but not all the time f. Every day, all the time g. Don't know / Not sure h. Refused
8. During the past 30 days, how many days did symptoms of asthma make it difficult for you to stay asleep? Would you say?	<ul style="list-style-type: none"> a. None b. One or two c. Three to four d. Five e. Six to ten f. More than ten g. Don't know / Not sure h. Refused
9. During the past 30 days, how many days did you take a prescription asthma medication to prevent an asthma attack from occurring?	<ul style="list-style-type: none"> a. Never b. 1 to 14 days c. 15 to 24 days d. 25-30 days e. Don't know / Not sure f. Refused
10. During the past 30 days, how often did you use a prescription asthma inhaler during an asthma attack to stop it?	<ul style="list-style-type: none"> a. Never (include no attack in past 30 days) b. One to four times (in the past 30 days) c. Five to fourteen times (in the past 30 days) d. Fifteen to twenty-nine time (in the past 30 days) e. Thirty to fifty-nine times (in the past 30 days) f. Sixty to ninety-nine times (in the past 30 days) g. More than 100 times (in the past 30 days) h. Don't know / Not sure i. Refused

Childhood Asthma Questions

(Asked of all adult respondents with children under age 18 in the household.)

1. Has a doctor, nurse or other health professional EVER said that the child has asthma?	<ul style="list-style-type: none"> a. Yes b. No c. Don't know / Not sure d. Refused
2. Does the child still have asthma?	<ul style="list-style-type: none"> a. Yes b. No c. Don't know / Not sure d. Refused

Appendix 2: BRFSS Detailed Tables

Lifetime and Current Asthma Prevalence by Year, Connecticut & United States, 18+ years old (2000-2006)

	2000	2001	2002	2003	2004	2005	2006
	Percent						
Lifetime Asthma							
Connecticut	10.8	12.3	13.2	12.2	15.3	12.4	13.8
United States	10.5	11.3	11.8	11.7	13.3	12.6	13.0
Current Asthma							
Connecticut	7.8	7.9	8.5	8.3	9.7	8.0	9.3
United States	7.3	7.3	7.6	7.6	8.4	8.0	8.5

Lifetime and Current Asthma Prevalence by Year & Sex, Connecticut, 18+ years old (2000-2006)

	2000	2001	2002	2003	2004	2005	2006
	Percent						
Lifetime Asthma							
Male	9.8	11.1	12.6	10.7	12.6	9.9	12.0
Female	11.7	13.4	13.8	13.5	17.8	14.6	15.4
Current Asthma							
Male	5.9	6.0	7.4	6.6	7.1	5.5	7.1
Female	9.6	9.6	9.6	9.8	12.1	10.2	11.2

Lifetime and Current Asthma Prevalence by Year & Age Group, Connecticut, 18+ years old (2000-2006)

	2000	2001	2002	2003	2004	2005	2006
	Percent						
Lifetime Asthma							
18 – 24 years	18.6	18.4	21.8	19.0	23.6	18.7	19.7
25 – 34 years	12.1	14.0	15.6	13.7	17.5	15.8	16.5
35 – 44 years	10.5	12.9	12.8	11.9	15.9	11.7	11.3
45 – 54 years	8.3	11.7	12.1	11.1	14.1	9.6	13.6
55 – 64 years	8.5	10.3	11.6	13.4	13.8	11.8	13.4
65 + years	9.0	8.5	8.8	7.7	10.3	9.8	11.3
Current Asthma							
18 – 24 years	11.1	11.5	11.2	14.0	14.4	13.1	11.6
25 – 34 years	7.7	9.1	10.3	9.0	10.2	8.6	10.5
35 – 44 years	8.3	7.6	8.4	7.7	10.1	7.9	7.5
45 – 54 years	6.7	7.9	8.2	7.7	9.5	6.3	9.8
55 – 64 years	6.8	6.8	7.2	9.2	9.4	8.2	9.4
65 + years	7.2	5.5	6.9	5.1	6.6	6.1	8.0

Lifetime and Current Asthma Prevalence by Year & Race/Ethnicity, Connecticut, 18+ years old (2000-2006)

	2000	2001	2002	2003	2004	2005	2006
	Percent						
Lifetime Asthma							
White, non-Hispanic	10.2	11.7	13.1	12.0	15.1	11.8	13.5
Black, non-Hispanic	17.0	14.5	13.5	11.6	16.2	18.0	18.5
Hispanic	11.5	17.4	15.4	13.0	18.3	17.1	15.6
Other, non-Hispanic	5.4	11.3	11.8	11.6	15.6	5.9	10.2
Current Asthma							
White, non-Hispanic	7.5	7.6	8.6	8.1	9.5	7.9	9.0
Black, non-Hispanic	13.3	8.6	10.2	9.6	12.6	11.7	12.6
Hispanic	7.8	10.1	9.1	8.9	10.2	8.3	10.9
Other, non-Hispanic	4.4	5.8	4.1	7.9	10.8	4.1	7.6

Lifetime and Current Asthma Prevalence by Sex, Connecticut, 18+ years old (2006)

Sex	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
Male	12.1	10.6-13.5	7.1	6.0-8.3
Female	15.4	14.1-16.7	11.2	10.0-12.3
Total	13.8	12.8-14.8	9.3	8.4-10.1

Lifetime and Current Asthma Prevalence by Race/Ethnicity, Connecticut, 18+ years old (2006)

Race/Ethnicity	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
White, non-Hispanic	13.5	12.5-14.6	9.0	8.2-9.9
Black, non-Hispanic	18.5	13.4-23.6	12.6	8.0-17.3
Hispanic	15.6	11.9-19.3	10.9	7.9-13.9
Other, non-Hispanic	10.3	5.1-15.5	7.4	2.4-12.4

Lifetime and Current Asthma Prevalence by Age Group, Connecticut, 18+ years old (2006)

Age Group	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
18 – 24 years	19.7	14.6-24.7	11.6	7.6-15.6
25 – 34 years	16.5	13.5-19.5	10.5	8.1-12.9
35 – 44 years	11.3	9.3-13.3	7.5	5.9-9.0
45 – 54 years	13.6	11.8-15.4	9.8	8.3-11.4
55 – 64 years	13.4	11.5-15.4	9.4	7.7-11.0
65 + years	11.3	9.7-13.0	8.0	6.6-9.4

Lifetime and Current Asthma Prevalence by Marital Status, Connecticut, 18+ years old (2006)

Marital Status	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
Married	12.3	11.1-13.4	8.2	7.3-9.2
Never Married	17.8	14.6-20.9	11.1	8.6-13.5
Widowed	11.6	9.1-14.1	8.9	6.6-11.2
Divorced/Separated	15.5	13.0-18.0	11.1	8.9-13.3
Unmarried Couple	19.1	13.0-25.2	12.7	7.7-17.7

Lifetime and Current Asthma Prevalence by Employment Status, Connecticut, 18+ years old (2006)

Employment Status	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
Employed	13.6	12.4-14.9	8.6	7.6-9.5
Unemployed	17.2	12.1-22.3	11.2	7.1-15.3
Homemaker	11.3	8.2-14.4	7.5	4.9-10.0
Student	17.3	9.2-25.5	14.2	6.6-21.9
Retired	11.2	9.5-12.9	8.3	6.8-9.7
Unable to Work	25.6	20.1-31.0	22.1	16.9-27.3

Lifetime and Current Asthma Prevalence by Education Level, Connecticut, 18+ years old (2006)

Education Level	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
Less than High School	12.6	9.4-15.8	8.9	6.5-11.3
High School or GED	13.3	11.3-15.2	9.5	7.9-11.2
Some post-High School	14.7	12.5-16.9	9.7	8.0-11.5
College Graduate	13.9	12.4-15.4	8.9	7.7-10.2

Lifetime and Current Asthma Prevalence by Household Income, Connecticut, 18+ years old (2006)

Household Income	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
< \$15,000	18.0	13.4-22.5	15.6	11.2-19.9
\$15,000 – \$24,999	13.0	10.2-15.7	9.1	6.7-11.4
\$25,000 – \$34,999	14.1	10.7-17.5	10.6	7.6-13.7
\$35,000 – \$49,999	13.0	10.0-16.0	7.3	5.1-9.5
\$50,000 – \$74,999	16.4	13.5-19.3	12.1	9.6-14.5
\$75,000 +	12.8	11.2-14.4	7.6	6.4-8.8

Lifetime and Current Asthma Prevalence by County of Residence, Connecticut, 18+ years old (2006)

County of Residence	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
Fairfield	13.0	11.0-15.0	8.7	7.0-10.3
Hartford	15.7	13.6-17.8	10.4	8.7-12.0
Litchfield	15.2	10.8-19.6	8.9	5.4-12.5
Middlesex	14.0	9.6-18.4	7.7	4.5-10.9
New Haven	11.4	9.6-13.2	7.9	6.4-9.4
New London	15.0	11.3-18.6	9.9	6.9-12.9
Tolland	16.3	10.3-22.2	12.3	7.2-17.3
Windham	14.7	9.7-19.6	12.5	7.7-17.3

Comparison of Weight Status by Current Asthma Status, Connecticut, 18+ years old (2006)

Asthma Status	Not Overweight		Overweight		Obese	
	Percent	95% CI	Percent	95% CI	Percent	95% CI
Current Asthma	33.5	29.0-38.0	35.7	31.1-40.3	30.8	26.4-35.2
No Current Asthma	42.0	40.4-43.5	38.5	37.0-40.0	19.5	18.3-20.7

Comparison of General Health Status by Current Asthma Status, Connecticut, 18+ years old (2006)

Asthma Status	Excellent	Very Good	Good	Fair	Poor
	Percent (95% CI)				
Current Asthma	10.6 (7.9-13.2)	32.9 (28.3-37.4)	34.1 (29.7-38.4)	16.6 (13.4-19.8)	5.9 (4.2-7.6)
No Current Asthma	27.1 (25.7-28.4)	36.2 (34.7-37.6)	26.4 (25.1-27.8)	8.0 (7.3-8.8)	2.3 (1.9-2.7)

Comparison of General Health Care Coverage Status by Current Asthma Status, Connecticut, 18+ years old (2006)

Asthma Status	Has Health Insurance		No Health Insurance	
	Percent	95% CI	Percent	95% CI
Current Asthma	93.1	91.0-95.3	6.9	4.7-9.0
No Current Asthma	89.6	88.5-90.6	10.4	9.4-11.5

Comparison of Receiving Flu Shot in Past 12 Months by Current Asthma Status, Connecticut, 18+ years old (2006)

Asthma Status	Had Flu Shot		No Flu Shot	
	Percent	95% CI	Percent	95% CI
Current Asthma	44.4	39.9-48.9	55.6	51.1-60.1
No Current Asthma	35.0	33.6-36.3	65.0	63.7-66.4

Comparison of Current Smoking Status by Current Asthma Status, Connecticut, 18+ years old (2006)

Asthma Status	Non-Smoker		Current Smoker	
	Percent	95% CI	Percent	95% CI
Current Asthma	79.2	75.5-82.9	20.8	17.1-24.5
No Current Asthma	83.6	82.4-84.7	16.4	15.3-17.6

Lifetime and Current Asthma Prevalence by Sex, Connecticut, 0-17 years old (2005)

Sex	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
Male	16.2	13.0-19.4	12.0	9.1-15.0
Female	13.7	10.6-16.8	8.9	6.5-11.3
Total	14.9	12.7-17.2	10.5	8.6-12.4

Lifetime and Current Asthma Prevalence by Race/Ethnicity, Connecticut, 0-17 years old (2005)

Race/Ethnicity	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
White, non-Hispanic	13.9	11.3-16.4	9.1	7.0-11.1
Black, non-Hispanic	14.1	7.6-20.6	11.2	5.5-16.9
Hispanic	21.8	14.3-29.3	17.4	10.2-24.6
Other, non-Hispanic	16.9	6.8-27.0	15.2	5.3-25.0

Lifetime and Current Asthma Prevalence by Age Group, Connecticut, 0-17 years old (2005)

Age Group	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
0 – 4 years	9.6	6.0-13.2	7.8	4.4-11.3
5 – 12 years	17.6	13.5-21.6	11.6	8.3-15.0
13 – 17 years	13.9	10.1-17.7	9.1	6.0-12.1

Lifetime and Current Asthma Prevalence by Parental Current Asthma Status, Connecticut, 0-17 years old (2005)

Age Group	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
Parents with Current Asthma	28.4	19.2-37.6	26.6	17.4-35.8
Parents without Current Asthma	13.6	11.2-16.0	8.8	6.9-10.7

Lifetime and Current Asthma Prevalence by Parental Marital Status, Connecticut, 0-17 years old (2005)

Parental Marital Status	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
Married	12.1	9.8-14.4	7.8	6.0-9.6
Never Married	31.6	18.7-44.5	29.8	16.9-42.8
Widowed	6.5	0.0-16.1	6.5	0.0-16.1
Divorced/Separated	26.0	17.4-34.6	18.2	10.6-25.8
Unmarried Couple	12.4	0.9-23.9	7.4	0.0-15.9

Lifetime and Current Asthma Prevalence by Parental Education Level, Connecticut, 0-17 years old (2005)

Parental Education Level	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
Less than High School	23.2	10.6-35.8	17.1	4.9-29.3
High School or GED	16.6	11.2-22.1	12.5	7.9-17.1
Some post-High School	18.1	12.6-23.7	12.1	7.3-16.8
College Graduate	12.0	9.2-14.8	8.2	5.9-10.4

Lifetime and Current Asthma Prevalence by Household Income, Connecticut, 0-17 years old (2005)

Household Income	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
< \$15,000	15.9	5.0-26.8	9.7	0.0-19.4
\$15,000 – \$24,999	27.6	17.1-38.1	24.1	13.7-34.5
\$25,000 – \$34,999	20.3	7.7-32.9	15.3	4.2-26.3
\$35,000 – \$49,999	20.2	12.2-28.1	12.7	6.0-19.4
\$50,000 – \$74,999	14.6	9.0-20.2	7.4	3.9-10.9
\$75,000 +	13.2	10.3-16.1	9.6	7.1-12.1

Lifetime and Current Asthma Prevalence by County of Residence, Connecticut, 0-17 years old (2005)

County of Residence	Lifetime Asthma		Current Asthma	
	Percent	95% CI	Percent	95% CI
Fairfield	12.7	8.5-16.8	7.7	4.6-10.7
Hartford	17.9	13.4-22.4	13.0	8.9-17.1
Litchfield	21.1	6.7-35.5	13.5	1.3-25.7
Middlesex	27.5	13.9-41.2	19.2	7.3-31.1
New Haven	9.9	6.3-13.5	8.8	5.3-12.3
New London	18.5	9.6-27.4	13.8	6.5-21.1
Tolland	10.2	2.4-17.9	4.1	0.0-8.3
Windham	19.5	8.2-30.9	10.9	1.9-19.8

Appendix 3: Asthma Hospitalization Detailed Tables

Asthma Hospitalization Rates by Year and Primary & Secondary Diagnosis (1996-2005)

Diagnosis	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)
Primary Diagnosis						
1996	2,834	11.4	1,632	20.7	4,466	13.7
1997	2,511	10.1	1,686	21.4	4,197	12.8
1998	2,536	10.3	1,160	14.4	3,696	11.3
1999	2,597	10.6	1,539	18.6	4,136	12.6
2000	2,530	9.8	1,371	16.3	3,901	11.4
2001	2,560	9.9	1,432	17.0	3,992	11.6
2002	2,848	10.9	1,587	18.8	4,435	12.8
2003	3,210	12.2	1,604	19.0	4,814	13.8
2004	2,886	10.9	1,467	17.5	4,353	12.5
2005	3,159	11.8	1,368	16.5	4,527	12.9
Secondary Diagnosis						
1996	8,571	34.6	953	12.1	9,524	29.2
1997	9,615	38.8	1,012	12.8	10,627	32.5
1998	10,086	40.9	981	12.1	11,067	33.8
1999	10,811	44.1	1,151	13.9	11,962	36.4
2000	12,316	47.9	1,207	14.3	13,523	39.6
2001	14,436	55.7	1,374	16.3	15,810	46.1
2002	15,478	59.2	1,449	17.2	16,927	49.0
2003	17,543	66.5	1,715	20.3	19,258	55.3
2004	19,771	74.5	1,943	23.2	21,714	62.1
2005	21,598	80.9	2,124	25.6	23,722	67.8

Asthma Hospitalization Rates by Year and Sex, Primary Diagnosis (2000-2005)

Sex	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)
Male						
2000	670	5.5	873	20.2	1,543	9.3
2001	678	5.5	889	20.6	1,567	9.4
2002	810	6.5	914	21.2	1,724	10.3
2003	959	7.6	987	22.9	1,946	11.5
2004	866	6.8	886	20.6	1,752	10.3
2005	905	7.1	879	20.7	1,784	10.5
Female						
2000	1,860	13.8	498	12.1	2,358	13.4
2001	1,882	13.9	543	13.2	2,425	13.7
2002	2,038	14.9	673	16.3	2,711	15.2
2003	2,251	16.3	617	15.0	2,868	16.0
2004	2,020	14.6	581	14.2	2,601	14.5
2005	2,254	16.2	489	12.1	2,743	15.3

Asthma Hospitalization Rates by Year and Race/Ethnicity, Primary Diagnosis (2000-2005)

Race/Ethnicity	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)
White, non-Hispanic						
2000	1,487	7.2	593	10.1	2,080	7.8
2001	1,484	7.2	570	9.7	2,054	7.7
2002	1,611	7.8	640	11.0	2,251	8.5
2003	1,865	9.0	680	11.8	2,545	9.6
2004	1,612	7.8	586	10.3	2,198	8.3
2005	1,790	8.6	523	9.3	2,313	8.8
Black, non-Hispanic						
2000	450	21.6	334	34.9	784	25.8
2001	495	23.3	354	36.9	849	27.5
2002	565	26.0	405	42.1	970	31.0
2003	599	27.1	403	42.0	1,002	31.6
2004	614	27.4	398	41.7	1,012	31.7
2005	638	28.0	393	41.5	1,031	32.0
Hispanic						
2000	487	23.5	347	29.8	834	25.8
2001	517	23.8	392	33.1	909	27.1
2002	624	27.4	427	35.3	1,051	30.2
2003	667	28.1	418	33.9	1,085	30.1
2004	598	24.3	391	31.2	989	26.6
2005	632	24.8	343	27.1	975	25.5
Other, non-Hispanic						
2000	106	12.2	97	23.8	203	15.9
2001	64	7.0	116	27.6	180	13.5
2002	48	4.9	115	26.3	163	11.6
2003	79	7.7	103	22.7	182	12.3
2004	62	5.8	92	19.6	154	10.0
2005	99	8.9	109	22.5	208	13.0

Asthma Hospitalization Rates by Year and Age Group, Primary Diagnosis (2000-2005)

Age Group	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)
0 – 4 Years						
2000			663	29.7	663	29.7
2001			765	34.8	765	34.8
2002			827	38.2	827	38.2
2003			811	37.6	811	37.6
2004			699	32.7	699	32.7
2005			673	32.1	673	32.1
5 – 9 Years						
2000			366	15.1	366	15.1
2001			357	14.9	357	14.9
2002			396	16.7	396	16.7

Age Group	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)
2003			426	18.3	426	18.3
2004			391	17.1	391	17.1
2005			395	17.5	395	17.5
10 – 14 Years						
2000			238	9.8	238	9.8
2001			228	9.2	228	9.2
2002			259	10.3	259	10.3
2003			263	10.4	263	10.4
2004			278	11.1	278	11.1
2005			212	8.6	212	8.6
15 – 17 Years						
2000			104	7.8	104	7.8
2001			82	6.0	82	6.0
2002			105	7.5	105	7.5
2003			104	7.3	104	7.3
2004			99	6.8	99	6.8
2005			88	5.8	88	5.8
18 – 24 Years						
2000	150	5.5			150	5.5
2001	156	5.5			156	5.5
2002	201	6.9			201	6.9
2003	198	6.6			198	6.6
2004	149	4.8			149	4.8
2005	148	4.7			148	4.7
25 – 34 Years						
2000	371	8.2			371	8.2
2001	340	7.7			340	7.7
2002	384	8.9			384	8.9
2003	369	8.6			369	8.6
2004	304	7.2			304	7.2
2005	338	8.2			338	8.2
35 – 44 Years						
2000	584	10.1			584	10.1
2001	597	10.3			597	10.3
2002	619	10.7			619	10.7
2003	703	12.3			703	12.3
2004	556	9.9			556	9.9
2005	563	10.1			563	10.1
45 – 54 Years						
2000	505	10.4			505	10.4
2001	540	10.8			540	10.8
2002	553	11.0			553	11.0
2003	629	12.2			629	12.2
2004	575	10.9			575	10.9
2005	633	11.8			633	11.8

Age Group	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)
55 – 64 Years						
2000	320	10.3			320	10.3
2001	338	10.6			338	10.6
2002	413	12.2			413	12.2
2003	450	12.7			450	12.7
2004	442	12.0			442	12.0
2005	498	13.1			498	13.1
65 + Years						
2000	600	12.7			600	12.7
2001	589	12.5			589	12.5
2002	678	14.5			678	14.5
2003	861	18.3			861	18.3
2004	860	18.3			860	18.3
2005	979	20.8			979	20.8

Asthma Hospitalization Rates by County of Residence, Primary Diagnosis (2001-2005)

County of Residence	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)
Fairfield	2,971	8.9	1,476	12.9	4,447	9.9
Hartford	4,121	12.5	1,826	17.5	5,947	13.7
Litchfield	394	5.5	248	11.3	642	6.9
Middlesex	287	4.6	121	6.7	408	5.1
New Haven	4,603	14.4	2,910	29.0	7,513	17.9
New London	1,358	13.5	467	14.9	1,825	13.8
Tolland	349	6.2	126	8.1	475	6.6
Windham	580	13.5	284	21.2	864	15.3

Appendix 4: Asthma Hospitalization Rates by Town 2001-2005

Note: Rates based on fewer than 20 hospitalizations may be unstable and should be interpreted with caution. Rates by town were calculated based on 2000 Census population.

Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)	# Hospitalizations	Rate (per 10,000)
Andover	a	a	a	a	7	4.6
Ansonia	93	13.2	40	17.8	133	14.3
Ashford	aa	aa	a	a	21	10.2
Avon	26	4.4	11	5.3	37	4.7
Barkhamsted	7	5.3	8	18.3	15	8.6
Beacon Falls	14	7.1	10	15.1	24	9.1
Berlin	56	8.2	13	5.8	69	7.6
Bethany	7	3.8	6	8.7	13	5.2
Bethel	45	6.8	18	7.3	63	7.0
Bethlehem	a	a	a	a	8	4.7
Bloomfield	100	13.0	44	21.0	144	14.7
Bolton	aa	aa	a	a	10	4.0
Bozrah	10	11.1	9	32.5	19	16.1
Branford	96	8.4	28	9.4	124	8.6
Bridgeport	1,153	23.1	480	24.2	1,633	23.4
Bridgewater	a	a	a	a	a	a
Bristol	491	21.3	82	11.8	573	19.1
Brookfield	15	2.6	11	5.1	26	3.3
Brooklyn	aa	aa	a	a	28	7.8
Burlington	aa	aa	a	a	24	5.9
Canaan	a	a	0	0.0	a	a
Canterbury	aa	aa	a	a	15	6.4
Canton	11	3.3	6	5.3	17	3.8
Chaplin	aa	aa	a	a	9	8.0
Cheshire	52	4.9	37	10.3	89	6.2
Chester	a	a	a	a	a	a
Clinton	16	3.3	22	13.4	38	5.8
Colchester	26	5.1	30	13.8	56	7.7
Colebrook	a	a	a	a	a	a
Columbia	13	7.1	10	15.4	23	9.3
Cornwall & Warren	a	a	a	a	6	4.5
Coventry	34	8.1	13	8.3	47	8.2
Cromwell	25	5.0	6	4.3	31	4.8
Danbury	252	8.6	101	12.4	353	9.4
Darien	15	2.3	23	7.2	38	3.9
Deep River	aa	aa	a	a	9	3.9
Derby	61	12.6	22	16.4	83	13.4
Durham	aa	aa	a	a	8	2.4

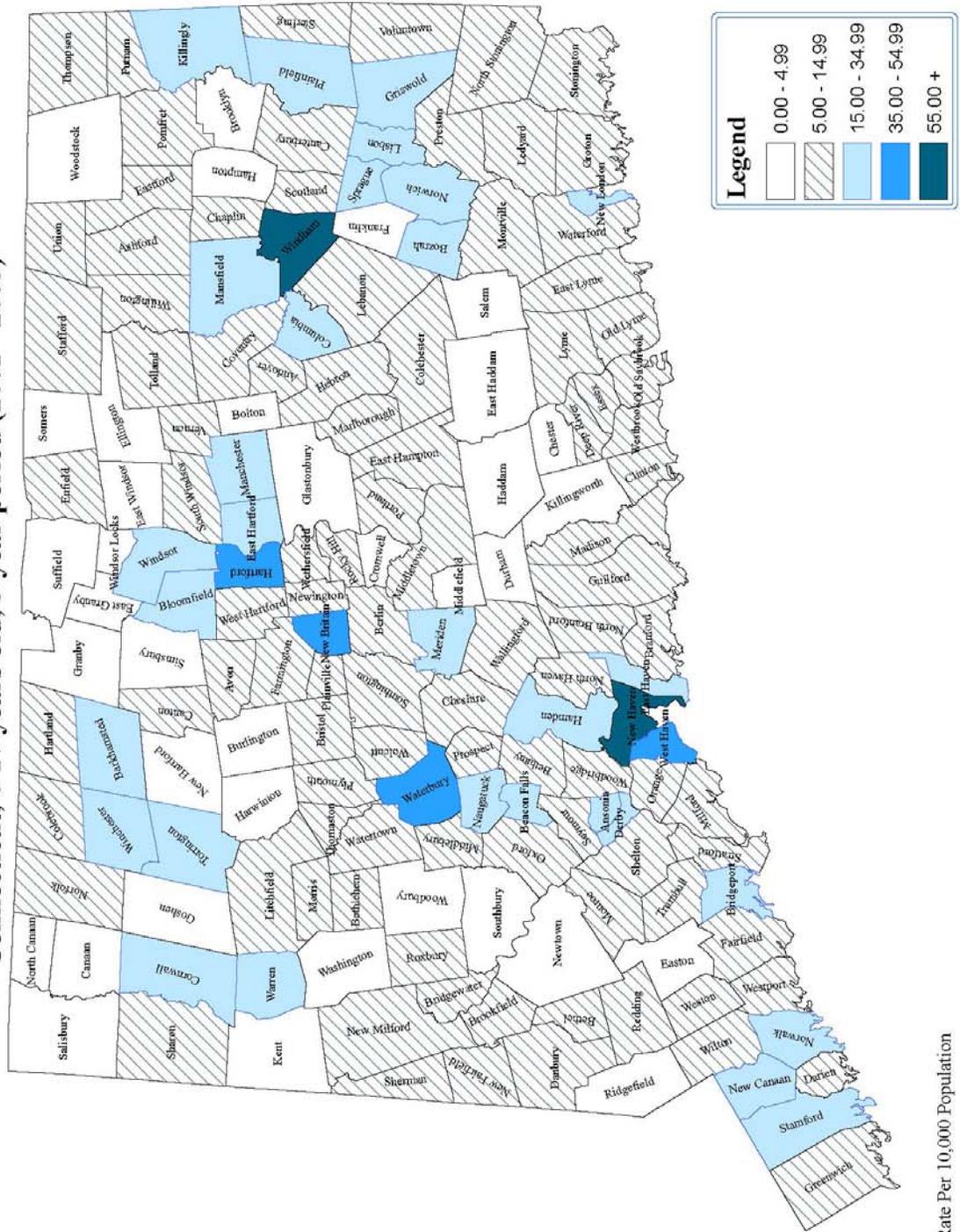
Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospita- lizations	Rate (per 10,000)	# Hospita- lizations	Rate (per 10,000)	# Hospita- lizations	Rate (per 10,000)
East Granby	aa	aa	a	a	10	4.2
East Haddam	aa	aa	a	a	17	4.1
East Hampton	14	2.7	10	7.0	24	3.6
East Hartford	237	12.6	115	19.3	352	14.2
East Haven	167	15.2	107	34.2	274	19.4
East Lyme	116	16.4	13	6.6	129	14.2
East Windsor	aa	aa	a	a	31	6.3
Eastford	a	a	a	a	6	7.4
Easton	aa	aa	a	a	9	2.5
Ellington	aa	aa	a	a	28	4.3
Enfield	245	14.0	30	5.9	275	12.2
Essex	aa	aa	a	a	19	5.8
Fairfield	115	5.3	48	7.1	163	5.7
Farmington	56	6.3	15	5.2	71	6.0
Franklin	aa	aa	a	a	9	9.8
Glastonbury	28	2.4	16	3.8	44	2.8
Goshen	a	a	a	a	a	a
Granby	16	4.3	6	4.2	22	4.3
Greenwich	129	5.7	79	10.2	208	6.8
Griswold & Lisbon	50	9.1	34	17.7	84	11.3
Groton	229	15.3	67	13.5	296	14.8
Guilford	47	5.9	33	12.1	80	7.5
Haddam	aa	aa	a	a	15	4.2
Hamden	243	10.8	181	30.6	424	14.9
Hampton	a	a	a	a	a	a
Hartford	1,158	27.2	758	41.5	1,916	31.5
Hartland	a	a	a	a	6	6.0
Harwinton	10	5.1	a	a	13	4.9
Hebron	15	5.0	10	7.7	25	5.8
Kent	a	a	a	a	a	a
Killingly	92	15.0	32	15.1	124	15.1
Killingworth	aa	aa	a	a	12	4.0
Lebanon	aa	aa	a	a	31	9.0
Ledyard	61	11.6	22	10.6	83	11.3
Litchfield	a	a	aa	aa	12	2.9
Madison	22	3.4	33	13.1	55	6.2
Manchester	188	8.9	94	15.1	282	10.3
Mansfield	40	4.5	21	15.3	61	5.9
Marlborough	a	a	aa	aa	9	3.2
Meriden	269	12.4	114	15.2	383	13.2
Middlebury	aa	aa	a	a	20	6.2
Middlefield	a	a	a	a	a	a
Middletown	115	6.8	36	7.7	151	7.0
Milford	163	8.0	62	10.6	225	8.6
Monroe	53	7.8	22	7.9	75	7.8

Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospita- lizations	Rate (per 10,000)	# Hospita- lizations	Rate (per 10,000)	# Hospita- lizations	Rate (per 10,000)
Montville	87	12.3	32	14.6	119	12.8
Morris	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	6	5.2
Naugatuck	141	12.4	64	15.4	205	13.2
New Britain	690	25.4	328	37.9	1,018	28.5
New Canaan	8	1.2	47	15.5	55	5.7
New Fairfield	19	3.9	12	5.7	31	4.4
New Hartford	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	6	2.0
New Haven	1,449	31.4	1,126	71.6	2,575	41.7
New London	280	28.3	78	26.6	358	27.9
New Milford	41	4.2	35	9.4	76	5.6
Newington	88	7.6	32	10.6	120	8.2
Newtown	37	4.2	16	4.4	53	4.2
Norfolk	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>
North Branford	58	11.2	24	13.5	82	11.8
North Canaan	<i>a</i>	<i>a</i>	0	0.0	<i>a</i>	<i>a</i>
North Haven	60	6.7	36	13.8	96	8.3
North Stonington	<i>aa</i>	<i>aa</i>	<i>a</i>	<i>a</i>	12	4.8
Norwalk	283	8.8	173	18.9	456	11.0
Norwich	227	16.6	110	25.3	337	18.7
Old Lyme & Lyme	24	6.6	6	5.5	30	6.4
Old Saybrook	18	4.4	8	7.1	26	5.0
Orange	21	4.2	15	9.2	36	5.4
Oxford	29	8.1	14	10.5	43	8.8
Plainfield	64	12.0	31	15.7	95	13.0
Plainville	78	11.4	17	9.2	95	11.0
Plymouth	34	7.9	11	7.3	45	7.7
Pomfret	<i>aa</i>	<i>aa</i>	<i>a</i>	<i>a</i>	11	5.8
Portland	18	5.5	10	9.0	28	6.4
Preston	21	11.5	6	11.4	27	11.5
Prospect	24	7.3	8	7.4	32	7.4
Putnam	50	14.5	12	11.3	62	13.8
Redding	6	2.0	7	5.8	13	3.1
Ridgefield	35	4.3	16	4.4	51	4.3
Rocky Hill	26	3.6	13	7.4	39	4.3
Roxbury	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>
Salem	14	10.3	0	0.0	14	7.3
Salisbury	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	6	3.0
Scotland	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>
Seymour	57	9.7	23	12.5	80	10.4
Sharon	<i>aa</i>	<i>aa</i>	<i>a</i>	<i>a</i>	11	7.4
Shelton	109	7.5	27	6.0	136	7.1
Sherman	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	7	3.7
Simsbury	23	2.8	16	4.7	39	3.4
Somers	<i>aa</i>	<i>aa</i>	<i>a</i>	<i>a</i>	21	4.0
South Windsor	52	5.9	17	5.1	69	5.7

Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Hospita- lizations	Rate (per 10,000)	# Hospita- lizations	Rate (per 10,000)	# Hospita- lizations	Rate (per 10,000)
Southbury	46	6.4	9	4.3	55	5.9
Southington	123	8.1	37	7.8	160	8.1
Sprague	6	5.5	11	28.5	17	11.4
Stafford & Union	65	14.5	8	5.3	73	12.2
Stamford	347	7.6	226	17.5	573	9.8
Sterling	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	7	4.5
Stonington	33	4.7	14	7.2	47	5.2
Stratford	210	10.9	71	12.3	281	11.2
Suffield	<i>aa</i>	<i>aa</i>	<i>a</i>	<i>a</i>	36	5.3
Thomaston	17	6.1	13	13.7	30	8.0
Thompson	25	7.5	7	6.3	32	7.2
Tolland	19	4.0	13	7.0	32	4.9
Torrington	127	9.4	73	18.0	200	11.4
Trumbull	81	6.4	29	6.5	110	6.4
Vernon	103	9.4	32	10.3	135	9.6
Voluntown	<i>aa</i>	<i>aa</i>	<i>a</i>	<i>a</i>	13	10.3
Wallingford	96	5.9	66	12.8	162	7.5
Washington	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>	<i>a</i>
Waterbury	974	24.7	549	38.6	1,523	28.4
Waterford	122	16.3	22	10.5	144	15.0
Watertown	66	8.1	35	13.0	101	9.3
West Hartford	138	5.6	70	10.0	208	6.5
West Haven	322	16.0	263	43.4	585	22.3
Westbrook	<i>aa</i>	<i>aa</i>	<i>a</i>	<i>a</i>	22	7.0
Weston	17	5.1	11	6.6	28	5.6
Westport	20	2.2	25	7.0	45	3.5
Wethersfield	89	8.5	23	8.7	112	8.5
Willington	7	3.0	6	9.6	13	4.4
Wilton	14	2.3	26	9.3	40	4.5
Winchester	33	8.1	29	23.3	62	11.6
Windham	256	29.1	172	65.4	428	37.5
Windsor	75	7.0	52	15.0	127	9.0
Windsor Locks	35	7.6	7	4.9	42	7.0
Wolcott	58	10.3	23	11.6	81	10.6
Woodbridge	18	5.5	13	10.4	31	6.9
Woodbury	<i>aa</i>	<i>aa</i>	<i>a</i>	<i>a</i>	16	3.5
Woodstock	<i>aa</i>	<i>aa</i>	<i>a</i>	<i>a</i>	18	5.0

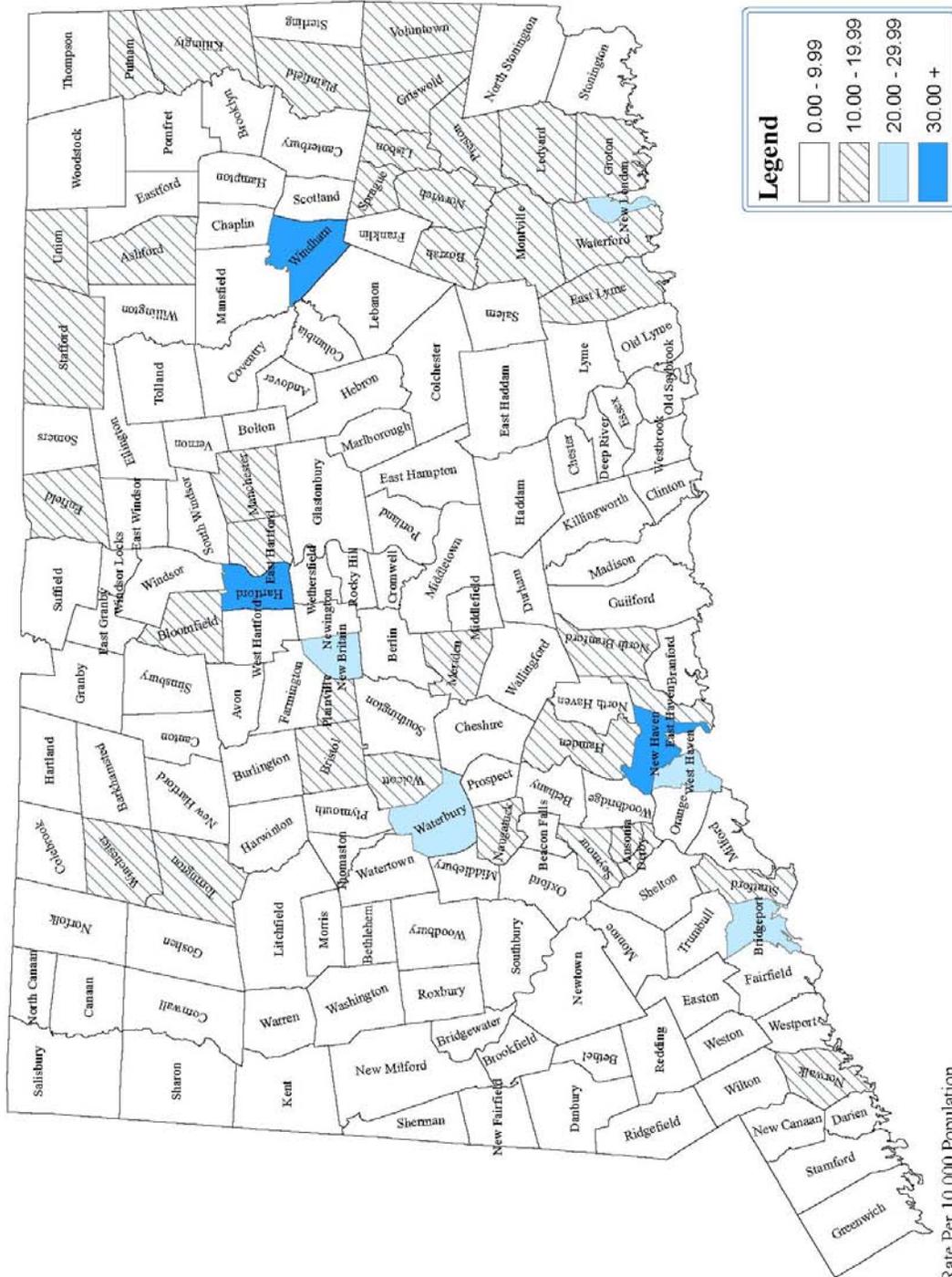
^a In keeping with confidentiality regulations, numbers and rates are suppressed when the number is less than 6, and marked "aa" when the number is 6 or greater, but suppressed to preserve the censoring of an adjacent cell.

Asthma Hospitalization Rates* by Town (Primary Diagnosis), Connecticut, 0-17 years old, 5-year period (2001 - 2005)



*Rate Per 10,000 Population

Asthma Hospitalization Rates* by Town (Primary Diagnosis), Connecticut, Total Population, 5-year period (2001 - 2005)



Appendix 5: Asthma ED Visit Detailed Tables

Asthma ED Visit Rates by Year and Primary & Secondary Diagnosis (1996-2004)

Diagnosis	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)
Primary Diagnosis						
1996	14,715	59.4	7,026	88.9	21,741	66.5
1997	14,910	60.1	7,022	88.9	21,932	67.1
1998	15,058	61.1	6,322	78.3	21,380	65.3
1999	15,776	64.3	7,448	89.9	23,224	70.8
2000	14,819	57.6	6,854	81.4	21,673	63.5
2001	14,485	55.9	7,140	84.7	21,625	63.0
2002	14,683	56.2	7,310	86.7	21,993	63.6
2003	15,903	60.3	7,587	90.0	23,490	67.5
2004	13,989	52.7	7,067	84.3	21,056	60.3
Secondary Diagnosis						
1996	4,804	19.4	2,570	32.5	7,374	22.6
1997	6,528	26.3	3,855	48.8	10,383	31.8
1998	8,750	35.5	4,423	54.8	13,173	40.3
1999	11,535	47.0	5,813	70.2	17,348	52.9
2000	11,946	46.5	5,118	60.8	17,064	50.0
2001	14,489	55.9	6,964	82.6	21,453	62.5
2002	16,158	61.8	7,532	89.3	23,690	68.5
2003	19,054	72.2	8,693	103.1	27,747	79.7
2004	20,062	75.6	7,638	91.1	27,700	79.3

Asthma ED Visit Rates by Year and Sex, Primary Diagnosis (2000-2004)

Sex	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)
Male						
2000	5,273	43.2	4,064	94.2	9,337	56.5
2001	5,170	41.9	4,297	99.6	9,467	56.8
2002	5,172	41.5	4,321	100.1	9,493	56.5
2003	5,744	45.6	4,476	103.8	10,220	60.4
2004	4,942	38.9	4,121	96.0	9,063	53.3
Female						
2000	9,546	70.8	2,790	67.9	12,336	70.1
2001	9,315	68.7	2,843	69.2	12,158	68.8
2002	9,511	69.6	2,989	72.6	12,500	70.3
2003	10,159	73.7	3,111	75.5	13,270	74.1
2004	9,047	65.3	2,946	71.9	11,993	66.8

Asthma ED Visit Rates by Year and Race/Ethnicity, Primary Diagnosis (2000-2004)

Race/Ethnicity	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)
White, non-Hispanic						
2000	6,708	32.4	2,085	35.4	8,793	33.1
2001	6,380	30.8	2,078	35.4	8,458	31.8
2002	6,374	30.7	2,033	34.9	8,407	31.7
2003	6,695	32.2	2,121	36.7	8,816	33.2
2004	5,979	28.8	1,870	32.7	7,849	29.6
Black, non-Hispanic						
2000	2,441	117.1	1,299	135.5	3,740	122.9
2001	2,534	119.3	1,456	151.8	3,990	129.4
2002	2,535	116.9	1,498	155.9	4,033	128.8
2003	2,667	120.6	1,430	149.1	4,097	129.2
2004	2,442	108.9	1,442	151.2	3,884	121.5
Hispanic						
2000	3,052	147.4	1,931	165.8	4,983	154.0
2001	2,999	138.1	1,875	158.4	4,874	145.3
2002	3,558	156.5	2,233	184.6	5,791	166.3
2003	4,097	172.4	2,368	191.8	6,465	179.1
2004	3,327	135.1	2,126	169.7	5,453	146.8
Other, non-Hispanic						
2000	1,642	189.6	1,052	257.9	2,694	211.5
2001	712	78.1	439	104.3	1,151	86.4
2002	352	36.3	295	67.3	647	45.9
2003	496	48.4	308	67.7	804	54.3
2004	442	41.3	345	73.5	787	51.1

Asthma ED Visit Rates by Year and Age Group, Primary Diagnosis (2000-2004)

Age Group	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)
0 – 4 Years						
2000			2,587	115.9	2,587	115.9
2001			2,741	124.8	2,741	124.8
2002			2,725	125.9	2,725	125.9
2003			2,790	129.4	2,790	129.4
2004			2,749	128.7	2,749	128.7
5 – 9 Years						
2000			1,832	75.3	1,832	75.3
2001			1,893	79.0	1,893	79.0
2002			1,959	82.6	1,959	82.6
2003			2,022	86.9	2,022	86.9
2004			1,832	80.0	1,832	80.0
10 – 14 Years						
2000			1,568	64.6	1,568	64.6
2001			1,630	66.0	1,630	66.0

Age Group	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)
2002			1,710	68.3	1,710	68.3
2003			1,762	70.0	1,762	70.0
2004			1,589	63.4	1,589	63.4
15 – 17 Years						
2000			867	65.2	867	65.2
2001			876	64.3	876	64.3
2002			916	65.6	916	65.6
2003			1,013	70.9	1,013	70.9
2004			897	61.6	897	61.6
18 – 24 Years						
2000	2,722	99.7			2,722	99.7
2001	2,563	90.7			2,563	90.7
2002	2,628	90.4			2,628	90.4
2003	2,843	95.2			2,843	95.2
2004	2,549	82.8			2,549	82.8
25 – 34 Years						
2000	4,028	89.3			4,028	89.3
2001	3,883	88.5			3,883	88.5
2002	3,764	86.8			3,764	86.8
2003	4,042	94.2			4,042	94.2
2004	3,455	82.0			3,455	82.0
35 – 44 Years						
2000	3,907	67.3			3,907	67.3
2001	3,850	66.2			3,850	66.2
2002	3,897	67.5			3,897	67.5
2003	4,186	73.4			4,186	73.4
2004	3,604	64.1			3,604	64.1
45 – 54 Years						
2000	2,111	43.6			2,111	43.6
2001	2,117	42.4			2,117	42.4
2002	2,356	46.7			2,356	46.7
2003	2,588	50.2			2,588	50.2
2004	2,311	43.9			2,311	43.9
55 – 64 Years						
2000	1,006	32.4			1,006	32.4
2001	1,036	32.5			1,036	32.5
2002	1,070	31.5			1,070	31.5
2003	1,185	33.4			1,185	33.4
2004	1,142	31.1			1,142	31.1
65 + Years						
2000	1,045	22.2			1,045	22.2
2001	1,036	22.1			1,036	22.1
2002	968	20.6			968	20.6
2003	1,059	22.5			1,059	22.5
2004	928	19.7			928	19.7

Asthma ED Visit Rates by County of Residence, Primary Diagnosis (2000-2004)

County of Residence	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)
Fairfield	13,679	41.0	7,563	65.9	21,242	47.3
Hartford	20,946	63.4	10,562	101.1	31,508	72.5
Litchfield	2,832	39.5	1,168	53.4	4,000	42.7
Middlesex	3,810	61.3	1,191	65.5	5,001	62.3
New Haven	19,321	60.6	10,983	109.5	30,304	72.3
New London	8,958	89.1	2,703	86.4	11,661	88.5
Tolland	2,238	39.6	869	55.8	3,107	43.1
Windham	2,095	48.7	919	68.7	3,014	53.4

Appendix 6: Asthma ED Visit Rates by Town 2000-2004

Note: Rates based on fewer than 20 ED visits may be unstable and should be interpreted with caution. Rates by town were calculated based on 2000 Census population.

Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)
Andover	43	38.9	30	72.5	73	48.1
Ansonia	833	118.5	313	139.5	1,146	123.5
Ashford	55	36.1	22	41.9	77	37.6
Avon	59	10.1	35	16.9	94	11.9
Barkhamsted	51	38.9	22	50.4	73	41.8
Beacon Falls	104	53.0	38	57.4	142	54.1
Berlin	162	23.6	45	20.0	207	22.7
Bethany	27	14.7	30	43.6	57	22.6
Bethel	219	33.3	85	34.5	304	33.7
Bethlehem	24	18.8	16	37.1	40	23.4
Bloomfield	311	40.4	196	93.4	507	51.8
Bolton	48	25.9	20	30.7	68	27.1
Bozrah	39	43.2	18	65.1	57	48.4
Branford	235	20.7	60	20.2	295	20.6
Bridgeport	6,420	128.6	3,392	171.0	9,812	140.6
Bridgewater	aa	aa	a	a	18	19.7
Bristol	2,324	100.7	915	131.4	3,239	107.9
Brookfield	100	17.6	72	33.6	172	22.0
Brooklyn	56	20.5	34	40.0	90	25.1
Burlington	69	23.5	45	38.9	114	27.8
Canaan	aa	aa	a	a	8	14.8
Canterbury	58	33.3	26	43.1	84	35.8
Canton	51	15.5	35	31.1	86	19.5
Chaplin	aa	aa	a	a	32	28.4
Cheshire	222	20.8	101	28.0	323	22.6
Chester	91	62.5	17	40.8	108	57.7
Clinton	327	66.7	105	63.9	432	66.0
Colchester	556	108.9	151	69.6	707	97.2
Colebrook	18	32.4	7	38.8	25	34.0
Columbia	76	41.4	24	36.9	100	40.2
Cornwall & Warren	15	14.6	10	31.5	25	18.6
Coventry	161	38.4	76	48.8	237	41.2
Cromwell	167	33.1	75	54.0	242	37.6
Danbury	1,353	46.2	652	80.4	2,005	53.6
Darien	76	11.5	68	21.4	144	14.7
Deep River	137	78.5	29	51.8	166	72.0
Derby	421	86.8	164	122.1	585	94.4
Durham	66	28.0	25	26.0	91	27.5
East Granby	24	13.7	13	21.0	37	15.6

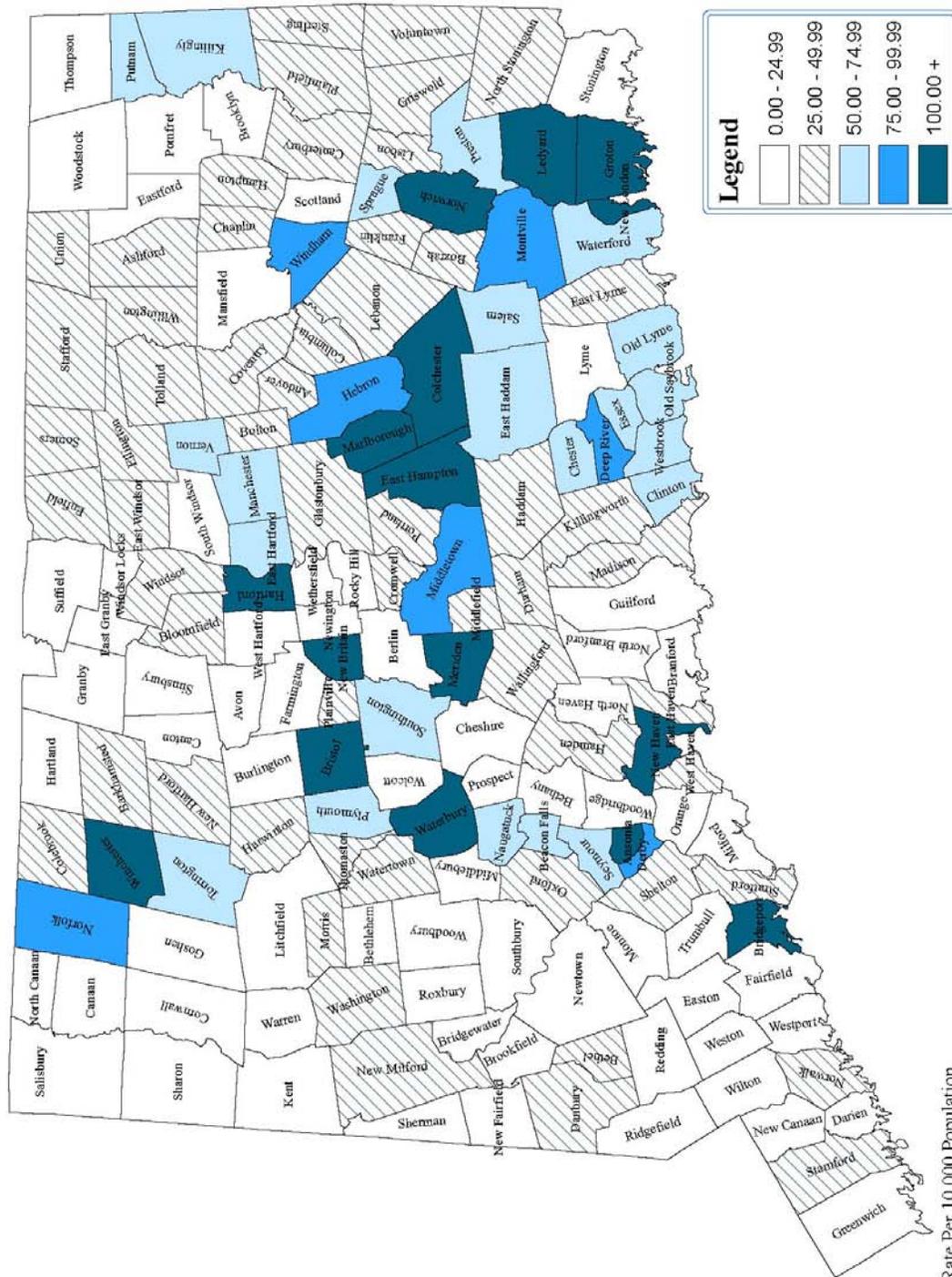
Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)
East Haddam	202	65.1	52	49.0	254	61.0
East Hampton	583	111.1	154	107.9	737	110.4
East Hartford	1,353	71.9	759	127.1	2,112	85.2
East Haven	397	36.2	246	78.7	643	45.6
East Lyme	245	34.6	45	22.7	290	32.0
East Windsor	165	43.2	60	55.1	225	45.8
Eastford	6	10.1	8	37.6	14	17.3
Easton	27	10.4	18	17.3	45	12.4
Ellington	185	38.3	70	43.0	255	39.5
Enfield	538	30.8	235	45.9	773	34.2
Essex	140	55.1	18	25.3	158	48.6
Fairfield	263	12.0	185	27.2	448	15.6
Farmington	188	21.0	81	28.1	269	22.8
Franklin	30	43.1	8	36.1	38	41.4
Glastonbury	310	26.6	124	29.1	434	27.2
Goshen	25	24.0	10	32.6	35	26.0
Granby	57	15.2	28	19.8	85	16.4
Greenwich	516	22.7	343	44.1	859	28.1
Griswold & Lisbon	275	49.8	114	59.5	389	52.3
Groton	2,114	141.0	573	115.6	2,687	134.7
Guilford	148	18.5	68	25.0	216	20.2
Haddam	104	38.6	31	35.1	135	37.7
Hamden	673	29.9	485	82.0	1,158	40.7
Hampton	27	41.4	12	52.9	39	44.4
Hartford	7,807	183.7	4,557	249.2	12,364	203.4
Hartland	9	12.3	10	36.4	19	18.9
Harwinton	58	29.3	18	27.2	76	28.8
Hebron	255	84.6	71	55.0	326	75.7
Kent	aa	aa	a	a	18	12.6
Killingly	418	68.3	167	79.0	585	71.0
Killingworth	94	42.9	38	46.6	132	43.9
Lebanon	108	43.4	22	22.8	130	37.6
Ledyard	563	106.9	173	83.3	736	100.2
Litchfield	66	21.2	49	46.8	115	27.7
Lyme	a	a	a	a	6	6.0
Madison	209	32.6	64	25.4	273	30.6
Manchester	1,502	71.0	644	103.4	2,146	78.4
Mansfield	139	15.5	58	42.1	197	19.0
Marlborough	222	107.1	49	62.7	271	94.9
Meriden	2,198	101.6	1,326	177.2	3,524	121.0
Middlebury	40	16.4	25	31.6	65	20.2
Middlefield	41	25.9	24	46.3	65	30.9
Middletown	1,289	76.3	481	102.7	1,770	82.0
Milford	196	9.6	136	23.3	332	12.7
Monroe	88	12.9	66	23.6	154	16.0

Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)
Montville	539	76.1	132	60.2	671	72.4
Morris	22	25.3	15	53.1	37	32.2
Naugatuck	614	54.2	301	72.3	915	59.1
New Britain	3,007	110.9	1,245	144.0	4,252	118.9
New Canaan	45	6.7	35	11.6	80	8.2
New Fairfield	102	20.9	72	34.4	174	24.9
New Hartford	66	29.7	49	59.8	115	37.8
New Haven	4,978	108.0	3,438	218.7	8,416	136.2
New London	1,879	189.7	597	203.9	2,476	192.9
New Milford	358	36.4	145	39.0	503	37.1
Newington	218	18.7	111	36.7	329	22.5
Newtown	149	16.8	95	25.9	244	19.5
Norfolk	48	75.8	11	56.0	59	71.1
North Branford	98	18.9	37	20.8	135	19.4
North Canaan	aa	aa	a	a	28	16.7
North Haven	141	15.8	100	38.4	241	20.9
North Stonington	70	37.5	14	22.3	84	33.7
Norwalk	974	30.1	487	53.2	1,461	35.2
Norwich	1,454	106.1	505	116.0	1,959	108.5
Old Lyme	159	56.5	37	41.6	196	52.9
Old Saybrook	231	56.9	46	40.9	277	53.4
Orange	43	8.6	30	18.4	73	11.0
Oxford	126	35.2	71	53.3	197	40.1
Plainfield	236	44.2	132	67.1	368	50.3
Plainville	272	39.9	87	47.3	359	41.4
Plymouth	262	60.7	97	64.7	359	61.7
Pomfret	33	23.7	22	43.4	55	29.0
Portland	156	47.9	75	67.4	231	52.9
Preston	115	63.2	26	49.6	141	60.2
Prospect	55	16.8	35	32.2	90	20.7
Putnam	212	61.6	68	64.1	280	62.2
Redding	37	12.6	20	16.6	57	13.8
Ridgefield	86	10.5	73	20.2	159	13.5
Rocky Hill	107	14.8	61	34.5	168	18.7
Roxbury	10	12.1	7	28.8	17	15.9
Salem	74	54.4	32	56.3	106	55.0
Salisbury	13	8.4	6	13.5	19	9.6
Scotland	aa	aa	a	a	12	15.4
Seymour	362	61.5	125	67.8	487	63.0
Sharon	aa	aa	a	a	21	14.2
Shelton	426	29.2	174	38.8	600	31.5
Sherman	22	15.7	15	29.4	37	19.3
Simsbury	73	8.9	73	21.3	146	12.6
Somers	111	26.9	31	28.6	142	27.3
South Windsor	179	20.2	121	36.2	300	24.6

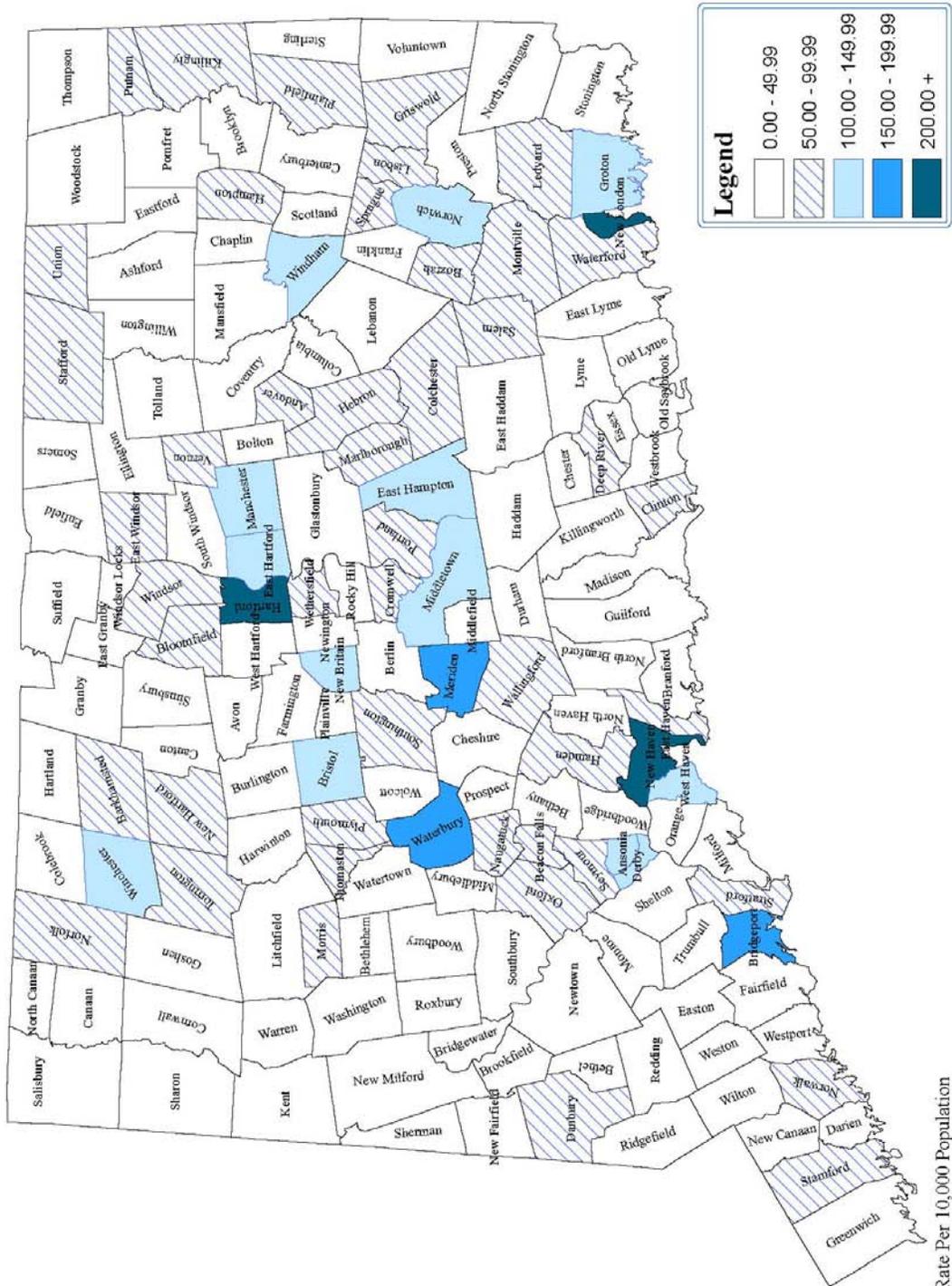
Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)	# ED Visits	Rate (per 10,000)
Southbury	77	10.7	47	22.2	124	13.4
Southington	782	51.7	253	53.4	1,035	52.1
Sprague	67	60.9	26	67.4	93	62.6
Stafford & Union	223	49.7	82	54.1	305	50.8
Stamford	1,896	41.6	1,101	85.0	2,997	51.2
Sterling	33	29.6	17	39.0	50	32.3
Stonington	155	22.1	66	34.0	221	24.7
Stratford	570	29.6	420	73.0	990	39.6
Suffield	41	7.8	29	19.4	70	10.3
Thomaston	85	30.3	63	66.4	148	39.5
Thompson	72	21.6	48	43.2	120	27.0
Tolland	132	28.0	68	36.5	200	30.4
Torrington	893	65.9	351	86.5	1,244	70.7
Trumbull	149	11.8	113	25.4	262	15.3
Vernon	804	73.6	309	99.6	1,113	79.3
Voluntown	32	34.5	10	29.8	42	33.2
Wallingford	481	29.4	263	50.9	744	34.6
Washington	36	26.5	11	25.1	47	26.1
Waterbury	5,600	142.1	2,688	188.9	8,288	154.5
Waterford	479	64.0	153	73.1	632	66.0
Watertown	207	25.4	79	29.4	286	26.4
West Hartford	484	19.5	326	46.4	810	25.5
West Haven	855	42.5	663	109.5	1,518	58.0
Westbrook	182	73.9	21	30.7	203	64.5
Weston	40	11.9	13	7.8	53	10.6
Westport	69	7.4	32	8.9	101	7.8
Wethersfield	216	20.6	141	53.5	357	27.2
Willington	61	25.9	30	48.1	91	30.5
Wilton	52	8.6	32	11.5	84	9.5
Winchester	432	105.6	155	124.8	587	110.1
Windham	806	91.6	313	118.9	1,119	97.9
Windsor	310	29.1	227	65.3	537	38.0
Windsor Locks	106	23.1	57	40.0	163	27.1
Wolcott	128	22.7	81	40.9	209	27.5
Woodbridge	60	18.5	48	38.5	108	24.0
Woodbury	65	18.6	32	29.0	97	21.1
Woodstock	48	18.0	41	43.2	89	24.7

^a In keeping with confidentiality regulations, numbers and rates are suppressed when the number is less than 6, and marked "aa" when the number is 6 or greater, but suppressed to preserve the censoring of an adjacent cell.

Asthma ED Visit Rates* by Town (Primary Diagnosis), Connecticut, 18+ years old, 5-year period (2000 - 2004)



Asthma ED Visit Rates* by Town (Primary Diagnosis), Connecticut, 0-17 years old, 5-year period (2000 - 2004)



* Rate Per 10,000 Population

Appendix 7: Asthma Mortality Detailed Tables

Note: Rates based on fewer than 20 deaths may be unstable and should be interpreted with caution.

Asthma Death Rates by Year and Underlying & Contributing Cause (1996-2005)

Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Deaths	Rate (per 1,000,000)	# Deaths	Rate (per 1,000,000)	# Deaths	Rate (per 1,000,000)
Underlying Cause						
1996	45	18.2	2	2.5	47	14.4
1997	63	25.4	0	0.0	63	19.3
1998	48	19.5	4	5.0	52	15.9
1999	48	19.6	2	2.4	50	15.2
2000	56	21.8	2	2.4	58	17.0
2001	43	16.6	3	3.6	46	13.4
2002	47	18.0	2	2.4	49	14.2
2003	41	15.5	0	0.0	41	11.8
2004	42	15.8	1	1.2	43	12.3
2005	40	15.0	3	3.6	43	12.3
Contributing Cause						
1996	97	39.2	0	0.0	97	29.7
1997	84	33.9	0	0.0	84	25.7
1998	111	45.0	1	1.2	112	34.2
1999	85	34.6	1	1.2	86	26.2
2000	79	30.7	1	1.2	80	23.4
2001	92	35.5	1	1.2	93	27.1
2002	109	41.7	0	0.0	109	31.5
2003	79	29.9	2	2.4	81	23.3
2004	79	29.8	0	0.0	79	22.6
2005	68	25.5	1	1.2	69	19.7

Asthma Death Rates by Sex, Underlying Cause (2001-2005)

Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Deaths	Rate (per 1,000,000)	# Deaths	Rate (per 1,000,000)	# Deaths	Rate (per 1,000,000)
Male	67	10.7	4	1.9	71	8.4
Female	146	21.2	5	2.4	151	16.9

Asthma Death Rates by Race/Ethnicity, Underlying Cause (2001-2005)

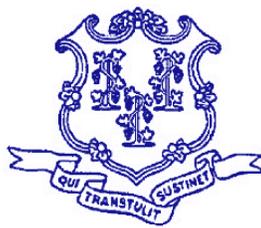
Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Deaths	Rate (per 1,000,000)	# Deaths	Rate (per 1,000,000)	# Deaths	Rate (per 1,000,000)
White, non-Hispanic	146	14.1	3	1.0	149	11.2
Black, non-Hispanic	35	31.7	3	6.3	38	24.0
Hispanic	25	21.1	1	1.6	26	14.5
Other, non-Hispanic	2	3.9	1	4.4	3	4.1

Asthma Death Rates by Age Group, Underlying Cause (2001-2005)

Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Deaths	Rate (per 1,000,000)	# Deaths	Rate (per 1,000,000)	# Deaths	Rate (per 1,000,000)
0-4 years			2	1.9	2	1.9
5-9 years			2	1.7	2	1.7
10-14 years			3	2.4	3	2.4
15-17 years			2	2.8	2	2.8
18-24 years	8	5.4			8	5.4
25-34 years	7	3.3			7	3.3
35-44 years	27	9.5			27	9.5
45-54 years	32	12.4			32	12.4
55-64 years	22	12.5			22	12.5
65+ years	117	49.8			117	49.8

Asthma Death Rates by County of Residence, Underlying Cause (2001-2005)

Town	Adults 18+ years old		Children 0 - 17 years old		Total Population	
	# Deaths	Rate (per 1,000,000)	# Deaths	Rate (per 1,000,000)	# Deaths	Rate (per 1,000,000)
Fairfield	46	13.8	4	3.5	50	11.1
Hartford	57	17.3	1	1.0	58	13.3
Litchfield	11	15.3	0	0.0	11	11.7
Middlesex	11	17.7	0	0.0	11	13.7
New Haven	54	16.9	2	2.0	56	13.4
New London	17	16.9	1	3.2	18	13.7
Tolland	5	8.8	0	0.0	5	6.9
Windham	12	27.9	1	7.5	13	23.0



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